December 21, 1929 Textile World Vol. LXXVI, No. 25

Published every Saturday by Bragdon, Lord & Nagle Company,
Division of McGraw-Hill Publishing Company, Inc., New York

Editors: Charles H. Clark, Douglas G. Woolf

The Week in Textiles

Outlook . . .

CONSIDERABLE variation in position of different textiles, but most hope to weather dull period if prices are adhered to and production cut. . . . . Cotton goods weak in price but selling gains; wool manufacturers announce maintenance of spring goods prices; knit goods still well sold and hopeful of future; silk goods demand better but raw silk irregular.

Tariff . . .

BEFORE taking up the tax bill the Senate voted on several items of wool manufactures, compensating for the increase in raw wool. Top waste was raised to 37c. as against the House rate of 34c. and the present 31c. and carbonized wool not advanced further than roving was placed at 37c. and 20% ad valorem. . . . . The lead of the Finance Committee was followed in eliminating the House brackets on wool yarn valued at less than 50c. per lb. and in addition the following rates were voted: 40c. per lb. and 35% ad valorem on all yarns valued at less than $1, and 40c. per lb. and 45% ad valorem for yarns valued between $1 and $1.50. . . . . Party leaders have agreed that the tariff bill will be given the right of way after the holiday recess.

Men's Wear Prices . . .

SEVENTY names have been added to the list of men's wear woolen and worsted mills which have authorized the Wool Institute to announce that they will definitely maintain their established spring prices on all duplicate or new business for the spring of 1930, making the total 176 mills and selling agencies. . . . . Sufficient time has elapsed for the trade to react and it is pleasing to note that to date all comment has been favorable.

Cotton Consumption . . .

STATISTICS released by the U. S. Census Bureau show a considerable drop in the consumption of cotton, the actual figures being 544,150 bales for November, as compared with 640,798 bales for October and 611,173 bales for November 1928. . . . . Stocks on hand increased, consumers holding 1,671,829 bales at the end of the month, as compared with 1,566,542 bales a year ago, while cotton in storehouse and compress totaled 5,841,950 bales as compared with 5,224,418 bales last year. . . . . While total active spindles decreased for the month to 29,649,394 from 30,595,840 last year, the cotton growing States showed a gain of about 25,500.

N.A.C.M. News . . .

THE board of directors of the National Association of Cotton Manufacturers, meeting in Boston, reappointed W. Irving Bullard treasurer and Russell T. Fisher secretary. . . . . The association's Bureau of Labor Statistics announces that textiles continue the safest of the major industries, the chances against permanent disability being rated at 1,000 to 1.

Cotton Exchange Probe . . .

KING Cotton received considerable attention in the Senate investigation of Cotton Exchanges, and many and varied were the reasons given for the present price. To list a few, blame was placed upon New York delivery, unorganized selling by farmers, speculation, lack of speculation, from threat of legislation, stock market collapse and foreign competition. . . . . Leo Shields, representing the East Carroll (La.) Chamber of Commerce stated that while cotton was 3c. lower on Dec. 1 than a year ago, price of cotton goods had declined practically nothing. A check reveals that 5.35 yd. print cloth receded $\frac{7}{8}$c. per yd. for a like period, or reduced to a poundage basis, 4.68c. . . . . There was talk in favor of an export subsidy. . . . . Spot cotton declined 25 points during the course of the investigation.

Wholesalers to Meet . . .

THE new merchandising service of the wholesaler will be the principal theme of the third annual convention of the Wholesale Dry Goods Institute to be held at the Hotel Pennsylvania on Jan. 21 and 22, 1930. . . . . The new competition in

retailing is bringing not merely new problems to be solved, but likewise new opportunities for those who essay to find the solution, and the dry goods wholesalers of America propose to apply themselves industriously to the fullest development of the new opportunities. . . . . The independent retailer they believe needs not merely a source of merchandise supply, but likewise, a competent source from which he can get merchandising and organization counsel and cooperation

Proposed Depreciation . . .

REPORTS that the Income Tax Division of the Bureau of Internal Revenue intends to promulgate a ruling which would require all textile mills to write off depreciation at a flat rate are refuted by Bureau officials. . . . . The objects of the research remain as stated in the Nov. 23 issue of TEXTILE WORLD, namely, basic rates of depreciation for every type of machinery to serve as a guide, arousing the interest of manufacturers in a problem which has been allowed to drift too long, and, above all, cooperation in arriving at suitable figures. . . . . The Cotton-Textile Institute is keeping in close touch with the situation.

Cotton Crop Value . . .

BASED on the Dec. 1 price of 16.4c. per lb. for cotton lint the total value of this seasons crop is estimated by the Crop Reporting Board of the Department of Agriculture at $1,225,032,000 as compared with valuation of $1,301,796,000 for last year. . . . . With the exception of a decrease of 29% for Texas and less serious declines for Oklahoma and North Carolina, however, major cotton-growing states registered gains running to a high of 21% for Mississippi. Total valuation for all U. S. crops increased about 1%.

Underwear Statistics . . .

NEW business and shipments of knitted underwear declined slightly for October as compared with September according to figures compiled by the Department of Commerce, based on 138 establishments. New orders were 1,372,177 doz. against 1,459,134 for September, while October shipments totaled 1,527,594 doz. as compared with 1,531,701 for September. . . . . Production for October increased in practically every item, especially union suits and women's summer weight shirts, but the total unfilled orders at the end of the month decreased 175,000 doz. to 1,607,212. . . . . Another survey shows that October shipments increased over 6% as compared with a year ago, but new orders and unfilled orders decreased somewhat.

Full-Fashioned Development . . .

A ONE-UNIT full-fashioned hosiery machine, capable of knitting the leg and the foot in one operation, is reported to have been developed by the Oliver Knitting Mills, Inc., of Philadelphia. . . . . The trade firmly believes that such a knitting machine will be perfected at some time, but unfortunately where "wolf" has been cried so many times, individuals in the industry hesitate to comment until it has been demonstrated that the new development is commercially practical.

Industrial Relations Conference . . .

SECOND annual industrial relations conference, sponsored by the Cotton Manufacturers Association of Georgia, was held Dec. 13, at Atlanta with over 300 clergymen, physicians, teachers and others interested in social work attending. . . . . Morning session was almost entirely taken up with an animated discussion of food and its relation to health. Afternoon session was concerned with education and the special problems of the industrial community schooling. . . . . All regarded the conference as a success, but regretted that there was insufficient time to take up the many questions.

Indicators . . .

NEW life insurance for November showed an increase of 12.5% over last year. . . . . U. S. export trade for November receded $80,549,000 from the year's high of $528,549,000 established in October, but the 11-month total is still materially above last year, according to preliminary figures of the Department of Commerce. . . . . Department of Labor announces general employment 3.1% lower for November compared with previous month, with payrolls declining 6.8% but allowance should be made for seasonal factors, general employment being actually only 0.6% below a like period last year.

Good Will . . .

THE opening of the new unit of the Pepperell Mfg. Co., in Fall River, Mass., brings to light an unusual development in enlightened employer-employe relations. . . . . The company inserted an advertisement in the local papers which said, among other things, that they believed in Fall River, were glad to locate there and realized that the workers in the mill and the interest of the city have tar more to do with the success of any mill than mere machinery.

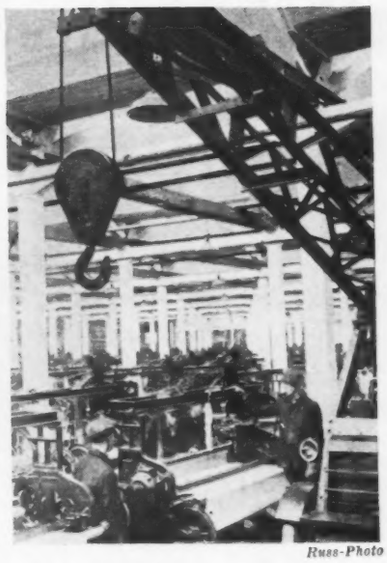
N.R.D.G.A. Convention . . .

PLANS have been made for the 19th annual convention of the National Retail Dry Goods Association which will be held at the Hotel Pennsylvania, New York, Feb. 3 to 7. . . . The keynote will be "The Merchants' Part in Stabilizing Business" with some discussion of the problem of how retailers can aid in economical production and distribution.

"Leesona" on the Air . . .

COMES the news from England that all the weft used in the fabric of the giant British Airship R-101 was rewound on the Leesona No. 90 machine. . . . . And another foreign decoration for the Universal Winding Co.: Small electric

International Newsreel



Russ-Photo

The Russian Soviet Textile Plant Nears Completion—This is part of a $40,000,000 textile project at Ivanovo-Vosnesensk. Now 10,000 spindles and 110 looms are operating. The 5-year plan calls for 400,000 spindles and 4,500 looms

coils are being wound for automatic milking machines on the company's No. 102 machine. . . . . Of additional interest: Export of textile machinery from the United States for the nine months of this year were valued at $9,915,000 as compared with $9,733,000 in the same period last year.

New England at Chicago . . .

WHILE the annual wool production of New England would not keep the mills of the country running more than half a day, let something be said as to its quality. . . . . A Vermont Dorset ram was awarded the champion ram trophy and a Massachusetts ewe the champion ewe ribbon at the International Livestock Exposition held recently in Chicago. . . . . Let the western sheep man watch his laurels.

Powder Blue . . .

POWDER blue is the color most frequently mentioned in the gossip of the men's wear suiting trade. . . . . Some factors are pressing it in the hopes that new life will be injected into business while others dislike the possibility of having their plans disrupted by the popularity of a new shade in mid-season.

Lancashire (Eng.) Promotion . . .

FORMATION of a public company for the promotion and sale of Lancashire cotton products in world markets is under consideration in England. . . . . According to the promoters, the plan embraces a central display, selling, and information bureau in Manchester and branches and agencies throughout the world. . . . . Lancashire cotton goods would be sold, for the account of members, cash against documents, and products would be advertised at home and abroad. . . . An appeal for financial support is to be made to all branches of the cotton manufacturing industry, according to a recent issue of the London *Financial Times* and the support promised is said to indicate a larger financial backing than originally proposed. . . . . It will be interesting to note the progress, if any, of a plan embracing competitors.

The Textile Trend . . .

COTTON Textile Markets: Superficially the market has lost ground during the week through lower prices, but the fact that a fair volume of business was accomplished in gray goods somewhat compensates. Sellers are cautious about forecasting and are uncertain whether this is the bottom of the movement. Meanwhile unplaced orders accumulate in some quarters. Exporters complain of great dullness and they find that our tariff revision is affecting countries which usually ship quantities of raw materials to us.

Wool Textile Markets: Market hesitancy removed by constructive action of leading producers announcing through Wool Institute that spring fabric prices would be maintained at opening levels. Buyers who had been holding off now show disposition to place initial orders and duplicates. Plain effects wanted in men's wear. Women's wear trade wants fancies, especially in tweeds and basket weaves. Worsted yarn prices steady in dull period.

Knit Goods Markets: High-pressure hosiery buying continues, with emphasis on medium-priced lines. Men's 50 and 75c. half-hose active. Heavyweight underwear steady; rayons active as gift line. Bathing-suits quieter; polos in good call for Christmas.

Silk Textile Markets: Raw silk spotty; prices strengthened and then weakened, returning to original low levels. Thrown silk also fluctuates; prices unchanged. Spun silk quieter, but January outlook excellent. Broadsilk demand satisfactory.

With the Editors this Week

Must Paddle Its Own Canoe

THE appointment of an executive committee of 20, as a result of the national business survey conference held recently in Washington, must not be regarded as an attempt to set up a board of government for business. Every one, from the President down, who has been identified with the series of national meetings held since the Wall Street crash, recognizes that the solution of our economic problem rests not in autocracy but in the furthering of democratic self-control by business itself.

The committee of 20 will serve temporarily as an excellent channel through which industry's ideas on broad policies may be vocalized but the job of carrying out these policies is up to business itself. The future demands 100% continuance of research, both technical and marketing, and this research can be conducted only through the trade associations, the institutes, and the individuals who compose them.

American business has had, in President Hoover, an excellent helmsman during the storms of the last month. It must now resume the paddling of its own canoe.

Modernization Emphasized

IMPORTANT industries represented at the business conference in Washington recently emphasized in their reports the potential effectiveness of a program of modernization, not only as a contribution to national plans for meeting such immediate problems of unemployment as may develop from the revised financial situation, but as a forward step in correcting such industrial weak spots as may exist.

Speaking for the iron and steel industry, James A. Farrell, president of the United States Steel Corp., and chairman of the American Iron and Steel Institute, stated:

"Earnings in the steel industry in recent years were largely expended in plant maintenance. It is well known to those in the industry that our most modern machinery becomes obsolete in 15 or 16 years, so that it requires earnings and surpluses in order to keep up to the times. It is not a question at this juncture of unduly enlarging capacity in our industry, other than keeping in step with the growth of business."

More extended reference was made to this theme by Clarence L. Collins, president of the National Electrical Manufacturers Association, who said:

"I have merely one suggestion, which was touched on to a certain extent by Mr. Farrell, that the electrical manufacturing industry, as well as all industries, undertake during the year 1930 a real program contemplating the modernization of plant and equipment. There is altogether too much obsolete and inefficient machinery and facilities, not only in our own industries but in all other industries. During the last year many industries have enjoyed real prosperity, and I think that if each industry that has enjoyed real prosperity undertakes a real program of modernization of plant and equipment, it will be a very material factor toward the stabilization of business conditions during 1930.

"That means modern lighting systems, more efficient machinery, better motor-driven machinery where that will contribute toward lower production costs. It means a careful study of all those various labor-saving devices which are used in connection with the handling of materials. Such a program undertaken for the year 1930 would not only be of great assistance in stabilizing business, but it would be a very important contribution toward prosperity in the future, as it would mean lower production costs, which we all recognize as the most important factor toward our continued prosperity."

* * *

The only amendment that can be made to Mr. Collins' statement is the remark that such programs of modernization cannot be limited to those industries which have enjoyed real prosperity. They are more vital to industries which have gone through profitless periods. It is increasingly evident that the day has passed when a company operating an inefficient plant and practicing inefficient distribution methods can hope to make money. Such a company is faced with two alternatives: Either arrange for financing which will permit it to modernize its plant and methods; or get out of business as quickly as possible.

* * *

Recognition of the significance of this opportunity for modernization is reflected in a special bulletin sent by Julius H. Barnes to trade association executives. Mr. Barnes said:

"Outstanding in the conference reports and discussion, and apparently meeting with unanimous approval, was a suggestion to which our chairman feels immediate attention should be invited. This suggestion is that advantage be taken of the next two or three months for repairs, maintenance, clean-up, general betterments, improvement, re-equipment and replacements prior to the spring period when the large public and private construction programs reported to the conference will be getting into full swing with consequent enlarged demand for labor and materials. The Department of Commerce has set up a Division of Public Construction which is actively working to assist Federal, State, and local authorities in development and coordination of their programs while the trade associations and chambers of commerce are also cooperating in connection with both public and private major construction programs. Time is, however, required for preparation of plans, for tenders and for financing. It is, therefore, obvious that these suggestions for repair and betterment work during the intervening months have much importance not only from the point of view of sustained employment and buying power—one of the

major objectives of this organized effort which American business men have undertaken at President Hoover's request —but also in many cases from the point of view of ultimate economies and lowered production costs.

"The applicability of the suggestion for immediate attention to repairs, betterment and replacement work will naturally vary greatly with different industries. Each trade association is in position to ascertain this for its industry and in its own way and through its own channels to bring the matter immediately to attention of its members. The suggestion is offered to you with confidence that all practicable cooperation will be given your association and industry."

Even if nothing else had been accomplished at the Washington meeting, it would have been justified by the attention focused upon this one phase of our industrial situation.

Now Scientific Research

THE domestic textile industry will be given an opportunity the coming year to prove whether it appreciates in a substantial manner the possible advantages that it might gain from scientific technical research of a fundamental character conducted cooperatively and systematically. The American Association of Textile Chemists and Colorists, which for several years with very limited funds and the gratuitous services of its research committee, has performed considerable worthwhile research work for the industry, decided at its recent annual meeting to appoint a committee to study and report at the next annual meeting on ways and means to start pure research on a cooperative basis.

The Textile Research Council, which is a small group of research-minded textile men who have been studying the approach to cooperative technical research since 1926, is now incorporating under New York laws preparatory to presenting for the study of the industry a concrete plan leading up to fundamental technical research on a cooperative basis.

The latter organization believes that the initial step in a research plan should be the collecting, indexing and abstracting of an up-to-date bibliography of textile research literature and facts, thus making available to individual researchers and manufacturers a bureau of existing research information, and avoiding future duplication of research effort and expense. In its completed form it would constitute a source of information upon everything having to do with textile fibers, manufacturing and manufactures based upon scientific research throughout the world. An enormous amount of such information exists in this and foreign countries, much of which is the result of investigations by scientists working for other industries, and making this easily available to the textile industry is no less important than the undertaking of new research.

Now that the various branches of the industry have had several years of experience in cooperative effort of other kinds, and have profited by its results, there has been removed one of the greatest obstacles to cooperation in pure scientific research. In their lessons in cooperation manufacturers early learned that duplication of effort should be avoided, and the two organizations that are now undertaking to interest the industry in pure scientific research will find it advantageous to profit by this lesson to the extent that their objectives are the same.

Are Spinners Helping?

IN NOVEMBER, sales spinners of both cotton and worsted yarns lowered prices faster than their raw material markets declined. In other words they had a narrower spinning margin upon which to work at the end of that month than they had at the beginning.

This is an indication of several things, among them being that as business became more difficult to book, as it did during that month, spinners were competing more keenly among themselves for the smaller total.

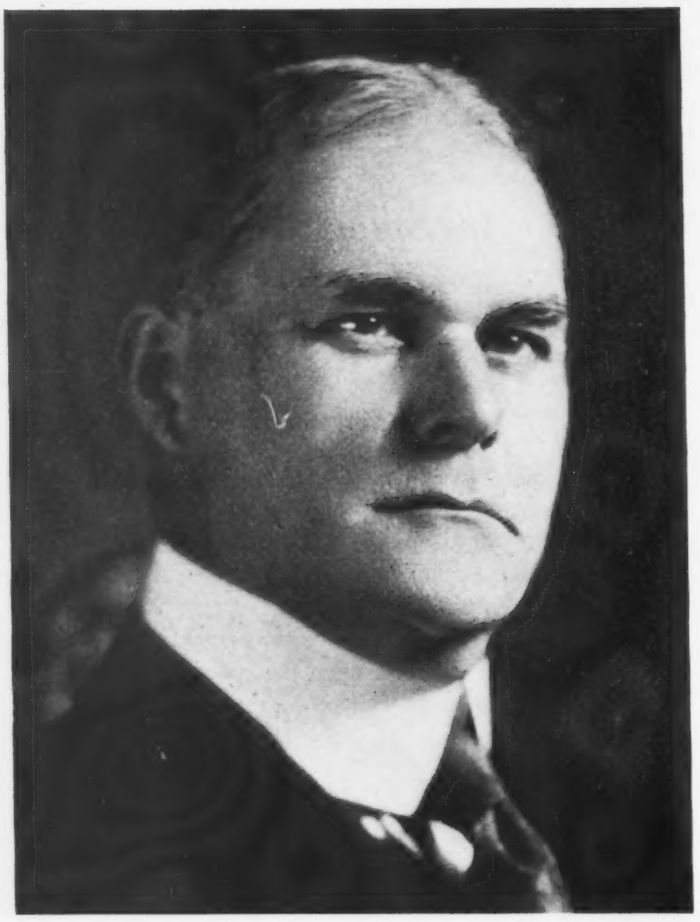
The nation has been favorably impressed by the prompt action taken by Federal, State and city Governments in formulating ways and means to counteract the effects of stock market deflation upon the country's business, and while the amount of good resulting therefrom is yet unknown, nothing but praise can be given the intent of the program.

Washington, North Carolina or Chicago cannot do what is expected by themselves. If industry is to be kept out of a crevice, as A. D. Whiteside called the period to be covered by the next few months, each concern must recognize the possible effects of its own action upon the whole business structure.

An example of what is not the thing for them to do is to be seen in the action of price-cutting by spinners, irrespective of all other considerations, to book an exceptionally small volume of new orders in November. What they have started to do is exactly what Mr. Whiteside and others have agreed is the thing to be guarded against. Prices are being lowered enough to hurt spinners and not enough to help manufacturers, retailers or the consumer.

Students of current business conditions believe that what spinners and others are doing, is not going to help the program to keep business in textiles stable and much of the good that could possibly result from the program started by President Hoover would be counteracted should other groups follow the policy that was pursued by sales yarn spinners in November. It is hardly possible that the answer to smaller demand is in continually cutting prices.

Two Textile M



STUART W. CRAMER, president of the Cramerton (N. C.) Mills, Inc., brings to the executive committee of 20, appointed as the result of the business conference held in Washington, Dec. 5, a background of achievement in the fields of science, industrial management and governmental affairs. His activities have included many years as mill architect and engineer; the development of his own plant in the South; participation in association work in the industry; service on national committees; and contribution to literature on economics.

CHARLES CHENEY, president of Cheney Bros., silk manufacturers, South Manchester, Conn., has taken part in cooperative activities not only within his own industry but in the field of business in general. He was invited to the business conference in Washington, Dec. 5, as president of the National Industrial Conference Board, and is now one of the committee of 20 appointed following that conference. His interest in the development of the silk industry in the Orient has also kept him in close touch with international affairs.

le Men on Business Committee

THE textile industry is honored by having two of its members represented on the executive committee of 20 authorized by the national business survey conference held at the Chamber of Commerce of the United States, Dec. 5. The personnel of that committee, as announced by Julius H. Barnes, includes Stuart W. Cramer, president of the Cramerton (N. C.) Mills, Inc., and Charles Cheney, president of Cheney Bros., So. Manchester, Conn.

"THE BEST that can be recommended to any industry is that it shall continually and uniformly adjust its production to consumption, rather than to make spasmodic efforts to that end. The double objective of stabilizing both employment and the textile market can be attained only by continuous and uniform effort.

"The trend of the textile industry in the South today is toward both shorter hours and correspondingly high wages.

"No expansion of the textile industry is in order at this time, but diversification and increased facilities therefor are very much in order."—Statement made to TEXTILE WORLD by Stuart W. Cramer.

It has been emphasized that this executive committee is not to be regarded as a permanent organization nor is it a governing board for business and industry. It, and a larger conference committee still to be appointed, will serve merely as channels through which further studies of the present economic situation may be conducted and through which the reactions and suggestions of business leaders throughout the country may be transmitted.

Stuart W. Cramer was born at Thomasville, N. C., March 31, 1868, and received his college education at the United States Naval Academy, from which he was graduated in 1888, and at the School of Mines, Columbia University, which he attended 1888-89.

His first textile experience was in the capacity of mill architect and engineer, associated with the late D. A. Tompkins, at Charlotte, and during a priod of 25 years, he planned or equipped possibly one-third of all the cotton mills in the South. In recent years he has developed, and continues in active charge of, Cramerton Mills, one of the most modern industrial enterprises of the South, with a model village and exceptional facilities for the health and recreation of the employees.

Mr. Cramer has been president of the American Cotton Manufacturers Association and joint chairman of the National Council of American Cotton Manufacturers. He is at the present time first vice-president of The Cotton-Textile Institute and a member of the National Industrial Conference Board. During the World War, he served as a member of the Production Engineering Committee of the Council on National Defense, and as a member of the War Service Committee of the American Textile Industry. In 1928, he was a member of the committee which notified Herbert Hoover of his nomination for the Presidency.

In addition to his accomplishments as an architect, engineer and manufacturer, Mr. Cramer has won distinction as an economist and writer. One of his works is the compilation of four volumes entitled "Useful Information for Cotton Manufacturers." He has been granted more than 60 United States and foreign patents as the result of his research and practical experience in applied chemistry, physics, and with machinery. Among his notable contributions was the Cramer system of air-conditioning, which includes automatic regulation of humidity and temperature.

For meritorious service and contributions to the social and industrial progress of the country, particularly North Carolina, during his many years in textile manufacturing, the honorary degree of Doctor of Science was conferred upon Mr. Cramer by the North Carolina State College at the last commencement in June.

Charles Cheney was born in Hartford, Conn. His company, Cheney Bros., is one of the outstanding silk manufacturing concerns in the country and has been progressively active in developing its merchandising policies, in organizing its style department, and in the field of employer-employe relationship.

Mr. Cheney, like Mr. Cramer, has taken an important part in association work. He has been president of the Silk Association of America and he headed the American Silk Mission to Japan and China in 1920. He is at the present time president of the National Industrial Conference Board

In addition to his connection with Cheney Bros., as president and as a director, he is a director of the Connecticut Mutual Life Insurance Co., the Chemical National Bank, and The Connecticut Co., an electric traction company.

In announcing the appointment of the executive committee Mr. Barnes stated: "A preliminary study of the many reports submitted to the national business survey conference indicates that there is nothing to cause further timidity or hestitation, but rather, warrants confidence in the early stabilization of business activity without justifying excessive optimism before the close of the test period of the next five months.

"Provisions for study and comparison of conditions in the various industries through representative trade organizations is being made by the formation of a large committee comprising competent and recognized leadership in the most important business fields. To shape and direct major policies as occasion requires, a small committee, which can meet more frequently and act with greater dispatch, has been appointed."

Recent Developments in DISTRIBUTION

By Dr. Julius Klein
Assistant Secretary of Commerce

THE present is indubitably the most crucial period of our business history since the 1920-21 slump. Certainly, therefore, it is most opportune that each of the major elements of our business organization should be most carefully tested as to whether they are developing their maximum efficiency. As was pointed out in the report of President Hoover's Committee on Recent Economic Changes, we can be assured of steady healthy progress only with thoroughly, well-founded equilibrium among the various major elements in our business life.

When, therefore, one of these, the stock market, suddenly gyrates far out of line or normality, it is bound to have repercussions on the rest of the machine.

The purpose of the recent business conferences held in Washington has been to determine precisely what reserves there are to withstand that strain. Fortunately, since the last issue of this sort confronted our business life, namely in 1921, there have been developed a series of invaluable devices for overcoming just such difficulties.

It will be noted that the President has indicated his intention to use these existing facilities in dealing with the problem now before us rather than to set up any new "super economic board of strategy." Organizations there are aplenty in Washington and elsewhere. What is needed now is an effective mobilization of all of these to assault the immediate difficulty.

And that difficulty is not simply the momentary one of finding construction projects, great building orders, shipyard contracts, road and bridge building orders, etc. It involves, above all things, an assurance that each of the two major branches of our business life, namely production and distribution, is doing its job to the utmost of possible efficiency.

Scrutiny of Distribution Needed

On the whole, I think it is quite safe to assume that our production methods are far in advance of those of distribution in terms of real efficacy. Here then is the biggest problem now confronting our business life: The establishment of something like equilibrium or balance between these two major functions. This means a redoubled scrutiny of our whole distributive apparatus to make sure that at least some of its major and more flagrant discrepancies are promptly remedied.

In every business crisis the first instinct is for a hasty jettisoning of whatever happens to be loose around on deck of the distressed vessel. Usually the things last loaded into the cargo are the ones first seized upon for this purpose regardless of the fact that there may well be some far less desirable items which ought to be the first to go overboard.

And so in the present situation, if difficulties are encountered by any of our distributors, they are apt to abandon first of all those recently acquired items in their expenditures which lie in the field of research and accelerated advertising. So much has been said in the past few years regarding the necessity of more statistical apparatus, closer market analyses, more intelligent stimulation of demand in potential trade areas that budget items for analysts, for advertising counselors, have of late been climbing upward—and quite rightly so. It would, however, be the height of ill-advised snap judgment to cut down immediately upon these items of expenditure simply because they happen to be among the last to be undertaken during the recent periods of prosperity. Now is just the time when they are most needed. It is uncertainty that breeds fear; and the purpose of market research is to dispel uncertainty, to contribute directly toward more efficient exploitation of trade opportunities. Scientific advertising these days has become inseparably linked with just such sound, thorough market researching practice. It is an indispensable element in the exploitation of the opportunities revealed by the export market analyst.

Simplified Classification Impossible

In analyzing the set-up of our distribution with a view toward assaulting its weaknesses, many of us are altogether too prone to think of it as being divided into clear-cut groups which we label for purposes of convenience wholesalers, retailers, chain stores, etc., as though they were separate armies with clearly defined and contrasting methods of operation and with distinct and diverse interests. That obvious error arises in part from our mistaken passion for pigeon-holing things,—understandable eagerness to simplify mental processes.

The increasing complexity of our distributive operations these days makes such clean-cut, simplified classification not only impossible but dangerously misleading. There is today a simply enormous amount of overlapping and interpenetration throughout the business world. In production, for instance, it takes the form of tens of

thousands of our wage earners who become stockholders in their companies and are often represented in management by shop committees or in other ways. They are, therefore, not simply workers, but their own employers in a sense. And that double identity, that merging of what the old world calls "classes" is one of the most salutary factors in America's economic position.

The same thing is evident in distribution. Chain grocers bake their own bread, so they are in the manufacturing business. In the other direction shoe manufacturers break into the retailing field. Mail order houses spread in both directions, on the one hand by establishing control over the entire output of numerous manufacturing plants and on the other by setting up chains of department stores throughout the country. Independent retailers band together in groups for cooperative buying, which likewise brings them close to control over certain productive activities.

Lack of Accurate Records

Perhaps the primary requirement of our distributive machinery, the factor in which seems to center a major portion of existing difficulties, a chief cause why retailers go wrong—and wholesalers and even larger elements —is the lack of accurate records. It is amazing to see how early in the course of any given clinic on the ills of any one establishment or group establishments the unpleasant truth comes out that the executive in charge "didn't know this was going on"; he had "no idea how much this was really costing him"; he never knew until it was too late the appallingly high percentage of his charge accounts as against those of his more successful competitor, which were turning into bad debts.

Among the details of retail distribution which are now being vigorously assaulted with a view toward curtailment of waste is that of delivery service. It is significant that in the cases of several recent large mergers of retailing firms one of the first steps was consolidated delivery. For instance, in Standard Brands, Inc., the nationally famous Fleischmann yeast delivery department,—one of the most effective in the country—was promptly expanded so as to serve freshly roasted Chase and Sanborn's coffee. We may expect similar economies in other lines as this particular question is attacked.

The Credit Structure

Another functional aspect of distribution which certainly must be promptly and vigorously attacked is credit structure. For instance, of our annual retail business of about forty billion dollars, it has been figured that 60% involves some form of selling on credit. This includes four or five billions of installment sales. Here we have a formidable sum whose mere proportions would seem to command immediate and respectful consideration and yet we are only beginning to develop the actual facts on this staggering mass of distributional activity. The national retail credit survey which the Department of Commerce is now carrying on in collaboration with the Retail Credit Men's Association and other agencies is making material headway in much needed analysis.

In this connection, our installament selling operations, which form the basis of so many industries, are likely to undergo their first real test in the situation. We are likely to discover just what proportion of this system has resulted from excessive extensions.

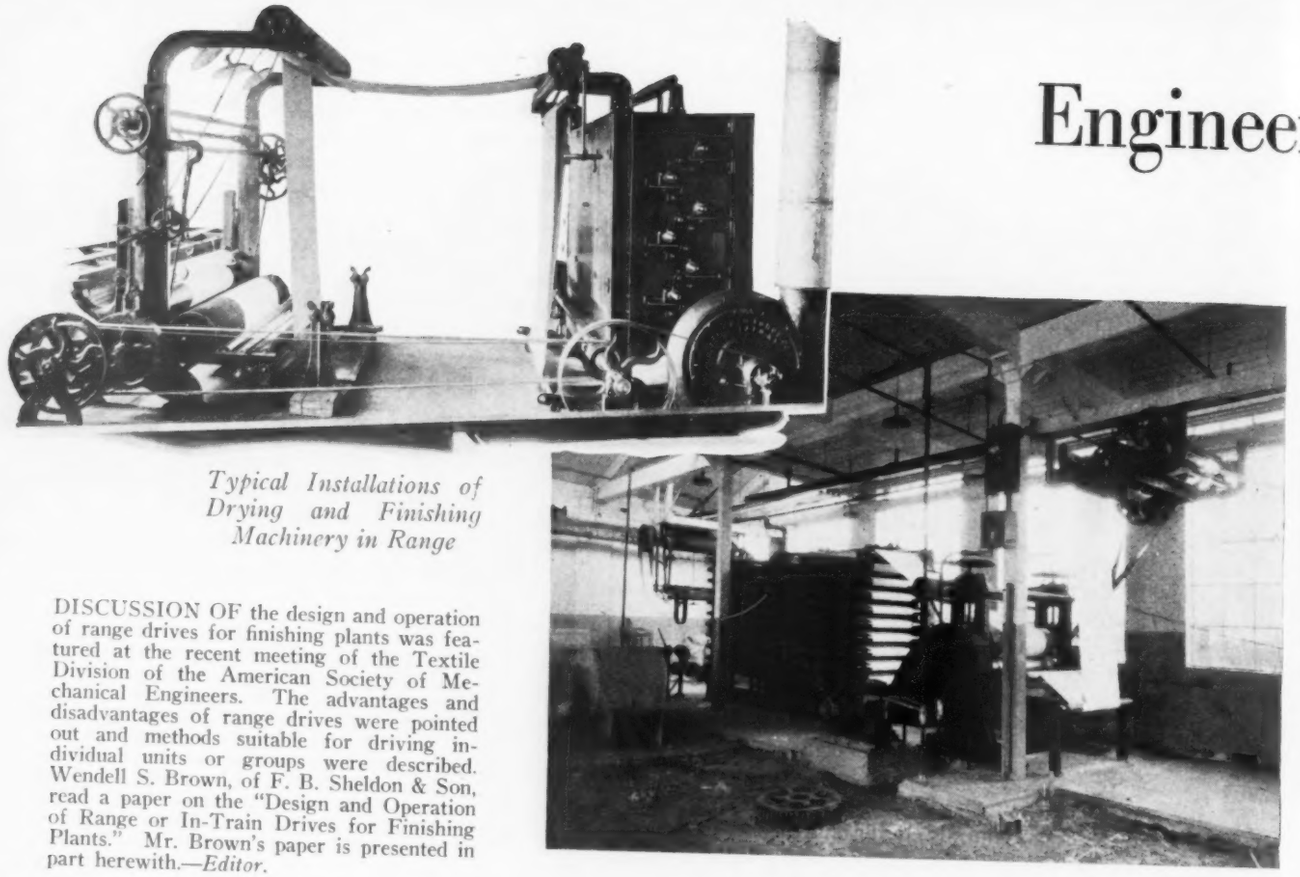
The present survey will develop valuable data on the credit loss by kind, size, and locations of establishments and as to the time that credit accounts are outstanding. This should afford a basis for very helpful colculations as to the relation between credit losses and the proportion of the price represented by down payments in different lines of business. There will also be very interesting figures by commodities as to the proportions of installment-sale goods which are later repossessed. The value of credit information bureaus as preventives of excessive credit losses will also be brought out.

Our major wastes in distribution probably occur among the ranks of small retailers. Countless hundreds of these unfortunates are not in a position to ascertain all of the essential facts upon which successful business must be built. They are apt to be entirely ignorant of the costs of doing business. In connection with the forthcoming distribution census it is hoped that illuminating details will be revealed as to some of these elements. But since the data are to be supplied by the retailers themselves, we can only hope for the best.

Hope springs eternal among the independent retailers as has been frequently pointed out in Louisville, where every month brings failure to 30 grocery stores and simultaneously 32 new ones are set up in business. In Kansas City last year there were some 1,080 restaurants at the beginning of the year and 551 of them went out of business for one reason or another within the twelve months. Meanwhile about 560 new ones came in to take their places.

All of this involves incalculable wastage not simply in savings and other private funds on the part of the poor storekeeper himself; but there are also other items, of course, which hit wholesales, fixture dealers, landlords, bankers, newspapers, and numerous others.

President Hoover in his speech before the National Distribution Conference in Washington in January, 1925, pointed out some 15 wastes in distribution. We have made material headway since that time against many of these items, but there is still much to be done and the present is the most timely period in which to launch a prompt and vigorous assault.



Typical Installations of Drying and Finishing Machinery in Range

DISCUSSION OF the design and operation of range drives for finishing plants was featured at the recent meeting of the Textile Division of the American Society of Mechanical Engineers. The advantages and disadvantages of range drives were pointed out and methods suitable for driving individual units or groups were described. Wendell S. Brown, of F. B. Sheldon & Son, read a paper on the "Design and Operation of Range or In-Train Drives for Finishing Plants." Mr. Brown's paper is presented in part herewith.—*Editor.*

MARKED progress is being made in the textile finishing industry through grouping certain machines or processes in series or ranges. Range drives may be defined as the successive processing of goods, without intermediate handling, through separate machines arranged in series, or "in-train," as against the older method of operating individual processes singly. The older methods involve intermediate handling, consisting of packaging, transportation, and storage between machines.

Some of the forms of mechanical range drives are not new, for instance the old rope soaper ranges. Undoubtedly, new combinations, more frequent combinations, and larger groups of machines are now being put into ranges than formerly, and the practice is generally recognized as good. In part, this is due to, and has been the cause of refinements in the development of automatic speed-control equipment. The question now is how much equipment to place in range, the number of machines being limited by economics rather than by mechanics.

The successful operation of finishing machinery in range is dependent upon the attainment of various advantages, and the relative importance of these items varies widely, according to special operating conditions at different plants and the goods being processed. Each case must be analyzed carefully, and the various factors given their proper weight in the total perspective. Often it is possible to utilize much present plant equipment in reorganized range drives, with little additional machinery.

Advantages of Range Drives

Some possible advantages of range drives are as follows: (1) Reduction in or elimination of several "in-between" losses; these include economies in man-time, machine-time, storage space, cloth-time, and cloth. (2) Improved uniformity and quality of product; this is due to less frequent threading-in, keeping fabric straight and square as to filling, less stoppages, less danger of stains from dripping oil and dirt during transportation and storage. (3) Saving in power and maintenance expense; this often results from a carefully engineered straight-run layout. (4) Saving in executive and office work; this is due to greater simplicity and ease in scheduling and following up the progress of goods through the plant. (5) Increased production; this is due to the fact that machines may be operated at maximum speeds.

Disadvantages of Range Drives

There are also inherent disadvantages in range drives which must be overcome as far as possible in order to obtain maximum economy. These, too, vary in number and importance, and should be the subject of thorough investigation for each individual case. The history of range drives is not one of uninterrupted progress, some ranges having been erected and later dismantled on account of inflexible and costly operation. Some possible disadvantages include: (1) The present market tendency toward a multiplicity of small lots and varied styles and the demand for samples; this results in disproportionate expense from set-up costs involving losses in machine and man-time caused, for example, from changes in the "making" for mangles, changing widths and speeds for frames, changing designs, colors, etc., for print machines. The above mentioned market tendency toward small lots may also result in inability to utilize all of the individual units, thus causing idle machine time and consequent increased operating costs. (2) Range speeds are limited to that of the slowest members. (3) Break-downs tie up the production of the whole equipment; this may cause damage to a large amount of cloth. (4) Additional building construction may be necessary on account of the length required for ranges. (5) Op-

Discuss RANGE DRIVES for Finishing Plants

erating losses; these are due to cloth damage in earlier processes continuing unnecessarily through subsequent processes. (6) Somewhat greater initial machine expense; this is due largely to automatic control features.

Applications

Range drives prove advantageous in many combinations from cloth in the rope form to cloth in open form. Examples of two-unit groups are:

(*a*) Open soapers and driers, starch mangles, and driers.

(*b*) Mangles and dry cans.

(*c*) Dry cans and tenters.

Examples of groups containing more than two units are:

(*a*) Bleachery washers, souring, piling.

(*b*) Singers, mangles, saturators, kiers.

(*c*) Mangles, dry cans, calender.

(*d*) Mangles, cold tenter, dry cans, calender.

(*e*) Mercerizing ranges consisting of padder, mercerizing frame, double washers, etc.

(*f*) Scutcher, water mangle, cylinder, drier, Tommy Dodd, cylinder drier, tenter, cooling cans, atomizer, winder.

(*g*) Brusher, mangle, tenter, drier, calender.

(*h*) Scutcher, water mangle, drier, starch mangle, dry cans, tenter, and winder.

(*i*) Open soapers, cylinder driers, starch mangle, cylinder drier, tenter, cooling cans, atomizer, Simpson winder.

(*j*) Alternate choice of starch mangle or Tommy Dodd, cylinder drier, tenter, cooling cans, atomizer. Simpson winder.

(*k*) Water mangles, weft straighteners, dry cans, guider, tenter, batcher.

A range drive includes two or more separately driven units or machines. These separate drives are arranged with inter-control so designed as to insure the proper degree of synchronism under changing over-all speeds and other varying conditions. Range drives may be divided into three classes according to the method adopted for driving the individual units or groups. These methods of driving are: (1) By adjustable-speed motors; (2) by constant-speed motors; and (3) by adjustable-speed small steam engines.

Adjustable-speed motors are synchronized by rheostatic control for direct-current motors, and usually by brush-shifting elements for alternating-current motors. Synchronizing in some instances is accomplished manually, but is usually most satisfactorily performed by automatic actuation through a "dancer roll" or other mechanism.

A dancer roll, also sometimes known as a compensating gate, consists of an idler roll floating upon a fold of cloth as the latter passes from one machine to another. The vertical movement of this roll is dependent upon the variation in accumulated slackness of the cloth, and is communicated to and operates on the motor-control device. This type of control can be made sufficiently sensitive to act over short distances of roll travel, especially if the control device is of the vernier

(Continued on page 80)

Sees Economical Limit to Range Operation

FOLLOWING THE presentation of Mr. Brown's paper a prepared discussion was read by Mark A. Golrick, Dutchess Bleachery. A summary of Mr. Golrick's remarks follows.—EDITOR.

THIS subject is of vital importance to most finishing plants, as many are partially range driven, while others are ready to go to extreme limits and be almost entirely range driven. The limiting factor is to determine exactly what constitutes an economical range, rather than how many machines can be arranged successfully in tandem from a mechanical standpoint of production.

In designing a range, a few features we may note are that special light goods often require a change in machine design, such as the introduction of ball bearings. This thought must be constantly borne in mind that, with the changes in type of goods to be run, a range may soon be obsolete unless careful planning and forethought provide for its necessary alterations in design. As usual, additional cost is added to the equipment to be installed, but it is generally a paying investment.

While Mr. Brown has spoken of the operating features, it is well to note that in attempting to start operating range drives, another feature must be carefully considered. This is the general opposition of foremen, as well as the individual employe, to the new machine. It is always very carefully pointed out by the employe that, with range drives, when one unit breaks down, it holds up the entire process; another point that is very carefully emphasized by the employe is the fact that a damage or other similar operating fault on a range will be far in excess of that on the original individual machines.

Another feature of operation is that better lubrication is important. In range drive, for example, an oil spot may start on a set of cans in tandem with a frame and a batcher, and the delayed inspection results in a greater tendency to extend the fault. Knowing this, the employes and foremen have an argument to support their contention that it is more difficult to inspect goods processed in range, than fabrics treated on individual machines. This is true, and it must be remembered that range drives require a superior type of employe to operate them. Again, the planning of the routing of the material to be run on the range must be done with great foresight.

In summary, it may be said that—with proper co-operation of the employes, the foremen, and the management—range drives are a great success in finishing plant work today. The plants which are not equipped for range drives must either limit their activities to special work and refrain from general competition, or ultimately be driven to range drives.

B. B. Gossett

Urges More Effective

COOPERATION

Between Mills and with Labor

COTTON MANUFACTURERS of the South not only should cooperate more effectively in efforts to eliminate the present unsatisfactory conditions in the textile market, but also they must adopt more intelligent policies in handling their labor, according to B. B. Gossett, president, Chadwick-Hoskins Co., Charlotte, N. C., and chairman of the division of commerce and industry, Department of Conservation and Development of the State of North Carolina, in an address before the students and faculty of N. C. State College, Raleigh, N. C., Dec. 12.

After paying tribute to the efficiency of the textile school and to the high type of statesmanship manifested by Governor O. Max Gardner in his program for the advancement of agriculture to a profitable basis in North Carolina, Mr. Gossett discussed the background of the present economic conditions of textile manufacturing and the industrial situation in the South, predicting a new era to come in employer-employe relations.

NO ANOMALY of the many in our own country's unprecedented prosperity within the last ten years stands out so boldly as the failure of textiles to rise to the general level of that stimulation which other major industries have attained. We have witnessed the strange spectacle of various other lines, some of them mere infants of industries employing relatively few laborers and with limited capital investments rushing to peak production, enjoying increasing consumer-demands, making tremendous profits and paying proportionately good wages while textiles, among the ancient of the industries, have languished in activity.

What has happened to this giant of American industries is vividly told by Mr. Borsodi in his book, "The Crisis in Textiles," showing that the cotton mills began the last decade with a ratio of net profits to net worth of 17.79 in 1918 and closed in 1928 with a ratio of net profits to net worth of only 1.01.

Unfortunately, we are now in the midst of one of the most severe and disquieting periods of decline in textile manufactures which our section has ever suffered, and this in spite of the fact that the basic reasons behind the remarkable expansion of cotton manufacturing in the South have neither been withdrawn nor impaired.

Under these circumstances and stern facts, it is well to keep in mind that what has happened to the textile industry in Great Britain and in New England can happen to the South. Whatever our physical, social, climatic and economic points of superiority may be, the same processes and practices that have wrought havoc in other areas of this industry can fall upon us. The leadership in this industry is now definitely lodged with us. Wise men still profit from the experience of others.

Largely as a result of the slanders of the communist agitators and their sympathizers, much of the entire country has been flooded with information tending to show that the wage scale of the cotton mill operative in the South is at a brutally low level and that working and living conditions are almost intolerable. The facts warrant no such contention. No one who is conversant with the situation would contend that living conditions and working conditions in all of the mills are ideal or what they might be. Improvement in some plants could and should be made. By and large, however, the mills of the South, and particularly in North Carolina, are providing their operatives with excellent homes and surroundings.

The demand for an investigation of southern cotton mills by a Senate committee has become insistent. Well meaning but mis-informed people have offered their resolutions in urging such an investigation. As far as I am concerned I feel that the industry as a whole has

nothing to be ashamed of. If an investigation by the Federal Government should be made so extensive as to include conditions in the industry in other sections of the country as well as the South, including the garment workers in the great cities, if it were made so searching as to bring out clearly to the public the generally unprofitable character of cotton manufacturing, the cause and possible remedies, there is no reason that southern mills should not welcome it. We would exercise our rights, of course, to demand that such a Senatorial investigation be prompted by unprejudiced motives, designed to arrive only at the facts and not promoted by the whims and caprices of professional agitators.

A few days ago North Carolina newspapers carried a statement from Senator Wheeler assailing conditions and low wages in southern textile plants, quoting a weekly wage in the cotton mills of the five dominantly textile States of the South greatly at variance with the actual and official average full time weekly earnings of cotton mill operatives in the South as contained in Bulletin No. 492 of the Bureau of Labor Statistics of the United States Department of Labor. These official Government figures show that for the year 1928, instead of the wage alleged to prevail by Senator Wheeler, the following to have been the average full time weekly earnings in these States: Alabama $13.42; Georgia $14.59; North Carolina $16.46; South Carolina $14.30 and Virginia $17.41. The average for all cotton manufacturing States was $17.30, including New England. The purchasing power of the money wage is of course the genuine standard of earning. It has been clearly established that the cost of living in the industrial sections of the South is much less than in the industrial sections of the East.

Wages Comparisons

Continuing this comparison of wages and living conditions in the South as against New England, the earnings of the employes of a large cotton mill company in western North Carolina were recently contrasted with the earnings of employes in a large mill company in Massachusetts and another in New Hampshire. The average money wage earned by the employes of the North Carolina company amounted to approximately $19 per week, basis full time 55 hours, while in Massachusetts the average was a little more than $21 per week, basis full time 48 hours, and in New Hampshire slightly in excess of $22 per week, basis full time 54 hours. This average covered all employes from those performing the most menial service, such as scrubbers, to the most skilled workers, such as weavers and skilled machinists. The apparent difference is about 15% in favor of New England. But when it is considered that comfortable homes are furnished the operatives in North Carolina at an average monthly rental of about $5 as compared with a monthly rental of $20 to $30 in New England, this differential of 15% in favor of New England virtually disappears.

As a matter of fact, taking into account that many North Carolina mills furnish their employes with free lights and water and provide them with fuel at cost, the advantage is really in favor of the North Carolina operative. It should also be pointed out that a majority of the operatives' homes in the southern mill villages are provided with ample grounds for garden and flowers, many of them with recreational facilities and with standardized schools. While North Carolina mills pay a somewhat higher wage than those in States further to the South, the wage tendency in the entire southern cotton manufacturing area is uniformly upward. A recent survey of the wage scale in South Carolina shows an average weekly wage of $15.96 per employe, basis full time 55 hours.

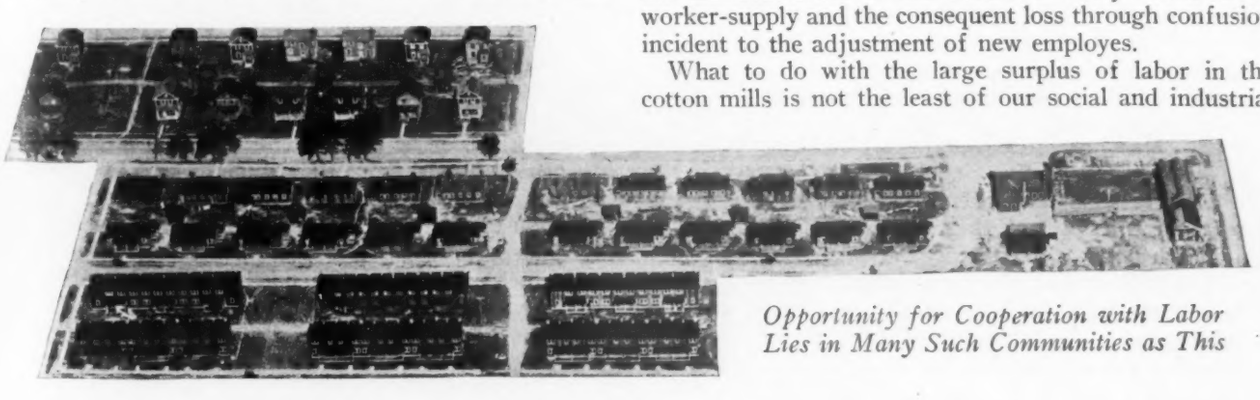
The craftsmen, such as stone masons, cabinet and watch makers, to say nothing of the professions, require years of apprenticeship and preparation. There is no such requirement of workers in the cotton textile industry. Individuals may be totally unfamiliar with the details of the work they come to do when they enter a cotton mill and, yet, in a relatively short time, they become sufficiently skilled to perform almost any kind of the industry's work. It is, therefore, logical that the pay of textile operatives should be somewhat lower than that received by workers whose occupations demand longer periods of training.

Inasmuch as virtually all textile labor originates from the farms any fair appraisement of the wage level in cotton mills must essentially take into account the miserably low income from which these tenant farmers are fleeing. According to a recent survey by the Bureau of Agricultural Economics, United States Department of Agriculture, there are approximately 100,000 white families on cotton farms in the upper Piedmont section of the Carolinas, Georgia and Alabama whose average cash income per family living was $336 a year. Taking a family of two workers as a basis of comparison, a group of this size could move from the farm into the average southern mill village where much better living conditions are provided and earn from the beginning approximately $1,000 a year in cash with the prospect of a gradual increase to $2,000 or more per year as such workers become more skilled and proficient.

Exodus from Farm to Mill

This exodus from the farm to the mill, while in many respects desirable, has complicated the problems of the industry for the employes already there and those offering themselves for new employment. The serious phase of this movement is that it has taken place faster than the industries have been able to assimilate the supply. For the manufacturers it has meant a heavy turnover in worker-supply and the consequent loss through confusion incident to the adjustment of new employes.

What to do with the large surplus of labor in the cotton mills is not the least of our social and industrial



Opportunity for Cooperation with Labor Lies in Many Such Communities as This

problems. If this can be corrected the cotton mill situation will take care of itself automatically.

A Challenge to Ingenuity

The ultimate remedy for this economic maladjustment is before us as a challenge to the best thought and statesmanship of the South. It is a question that is already taxing the ingenuity of the mill managers. Here, we face naturally the issue of night work in the mills; which personally, I have always deplored, and I am confident this feeling is shared by a majority of the mill owners. Night operations were brought about largely as a result of the war when the Government was constantly urging the industry to increase production. Following the war, the problem of what to do with these night shifts had to be met. Apart from the millions of dollars invested in the night run, mill owners had to confront the issue of what would become of the people if night operations were to be eliminated. It was clear, of course, that if the night run was stopped the number of employees would be decreased by at least one third, resulting in thousands who were earning a living by this policy being thrown totally out of employment and with no prospect of being able to earn a livelihood elsewhere.

Consider also in connection with a discussion of wages that the pay allowed by cotton mills or any other business to their employes is dependent to a large extent on earnings. This, in my judgment, is at the very heart of the textile problem. Increasing wages with decreasing profits is as economically out of the question as it is physically impossible to bring the two poles together. Certainly in the present state of the textile business when we attempt to balance this question of wages and earnings it will be clear to every thinking critic that a majority of the cotton mills are paying the highest possible wages.

Society is filled with reformers who, without making a diagnosis of our industry's ills are offering their cures. Over-zealous reformers have unknowingly and without a possession of vital facts wrought havoc, when naught but good was intended. The unionization of the textile workers is one of the panaceas suggested. I am very clear in my own mind that under the present depressed and complicated conditions nothing could happen that would result more disastrously to employer and employe alike than an attempt by foreign influences and outside unsympathetic organizations to unionize cotton mill operatives.

No fair minded man will deny the right of any citizen to join a union. It is a right not only in keeping with our constitutional guarantees, but it is one of those sacred and inherent rights based on justice and individual freedom to which all men are entitled where not in conflict with the best interests of society. The right of organized workers to enforce their opinions and demands against the will, not only of the mill managements, but against the desire of fellow employes who wish to follow a different course has always been a battle ground of contention.

While this agitation has, perhaps, been chief in recent labor disturbances in this State, another factor that has entered into the controversies, especially in South Carolina, had to do with the extended labor plan, called for the purpose of confusing the public, the "stretch out" system. It has not been introduced by the mill managements with the idea of securing more work at the same pay. As a matter of fact, under this new system the weaver has no more to do than formerly. Actually his work is confined exclusively under this plan to operation of looms, whereas, under the former order, the weaver performed other duties that have now been turned over to his helpers.

Educational Background Necessary

Let me say that, in my opinion, in order to secure satisfactory results in matters of this kind, the proper educational background must be laid, the proper preparation made for it and a new spirit of intimacy developed between the employing and the employed classes. Mills that cling to the old method of simply giving arbitrary notice of their purpose to do certain things, to adopt new policies and institute different procedures are not entitled to nor can they expect to receive the co-operation of their employes. They must first explain their plans and seek their co-operation. When employes are given confidence, they almost invariably will respond favorably. Personally I feel that nothing of the nature of a radical departure from usual working conditions, such as the extended labor plan, should be undertaken without fully first consulting one's employes. It is inevitable that, if some such plan is not generally adopted, outside agencies will come into the picture and bring about not constructive but frequently destructive conditions resulting disastrously to the public as well as employer and employe.

For the last few years, some of the best minds in the industry have been carefully studying its problems. One of the results of this study was the establishment of The Cotton-Textile Institute. To those who are well informed it is recognized that the leadership of the Institute has been of the highest order. Its work has been very helpful, but much remains to be accomplished. Naturally the degree of success that will follow is necessarily dependent upon the degree of cooperation by the members of the Institute and non-member mills.

Necessary Forms of Cooperation

Unfortunately, there are a great many individualists of the nineteenth century type in the cotton textile industry. Their attitude is one of unenlightened selfishness. Not only must there be closer cooperation between employer and employe—but also between the individual mills in every practical and proper way such as research work, advertising and in trying to improve unsound methods of merchandising.

Production must be kept in reasonable bounds and the mills must beware of trying to force on an unwilling market goods for which there is no consumer demand. We must seek the aid of our employes and redouble our efforts to increase the earnings of our mills, thereby providing a fair return to those who have invested their money in the industry as well as better wages and improved living conditions for our people.

Whatever can now be favorably said as to wages, living and working conditions and humanitarian regard now being enjoyed by the workers in the textile industry of the South, it cannot be denied that much is yet to be accomplished. The mill owner has problems which he can never solve without the sympathy and assistance of his workers and the destiny of these workers, socially and industrially, must be safeguarded. This truth we must keep foremost in our consideration. We have a task which calls for open handedness, a spirit of democracy, an attitude of conciliation, never one of either aloofness or hostility, friendly interchange of ideas, united determination and fixed purpose.

Overcoming Uneven and Twitty Rovings in Bradford Drawing

By Canadian

MANY managers and overseers have trouble in producing a level roving from the tops supplied to them. Several factors may be taken into consideration as to causes, two of the chief being (1) the amount of skin wool blended into the tops and (2) the blending of several qualities of tops to get down to a price proposition.

These notes are intended to show the way to overcome the uneven and twitty rovings that are very much in evidence, causing untold trouble in the spinning, weaving, and knitting departments. The method advocated has been tried out and used successfully by the writer over a considerable period of years, and will fully repay any manager or overseer who will put it into practice. Some variation will have to be made to suit individual sets, and this can be left to the discretion of the overseer responsible.

For example, we shall take as a representative set-up a drawing (using from 60s to 70s Botany tops) containing the following machines and layout:

Machine	Ends up	Drafts	Inches Ratch	F.R.	B.R.	Pitch	Bobbins
Can Gill	6	5	Open	2	2½	...	....
Spindle Gill	5	5	Open	2	2½	12½	14x9
Drawing Box	4	5	6	4	2½	12½	14x9
Weight Box	4	5	6	4	2½	11½	14x8
Drawing Box	3	5	6	4	2½	10½	12x6
1st Finisher	3	6	6	4	2	9½	10x6
2nd Finisher	2	6	6	4	2	7½	9x5
Reducer	2	6	6	4	2	6	8x4
Rover	2	7	5½	4	2	5½	6x3

In the can gill box and spindle gill box, care must be taken to see that the sliver is thoroughly held by the faller pins. The sliver must not be forced to the bottom of the pins and care must be taken to prevent any riding on the top of the pins.

The knock-off motions must be in working order on all machines, and care must be taken to set them properly —especially on the can gill box, as this is one of the most important links in the system.

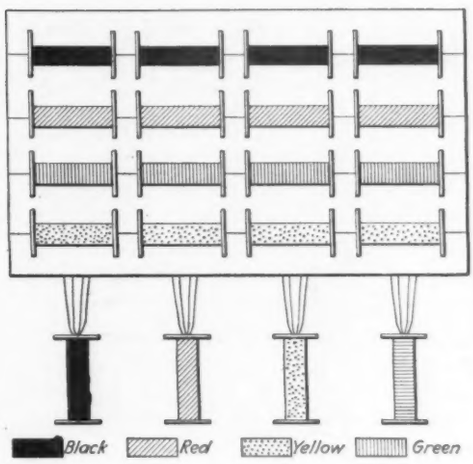


Fig. 4. Correct Creeling for the Drawing Box

In the case of a double-head can gill box, the cans must be of uniform weight and marked with a large black cross painted on one side, as in Fig. 1.

Each can on being filled must be carefully weighed, and the weight plainly marked on the can. Five cans should be balanced properly and placed at the back of the spindle gill box in the manner indicated in Fig. 2. The object of the marking on the cans will now be apparent, viz.: to prevent all the slivers from one side of the can gill box being fed up one side of the two-spindle gill box.

Coming now to the front of the spindle gill box, we have the bobbins painted in four colors; for example, black, red, yellow, and green. They are doffed from the spindle gill box in the following order: first doff, black and yellow; second doff, red and green; third doff, black and yellow; fourth doff, red and green; and continuing in the same order.

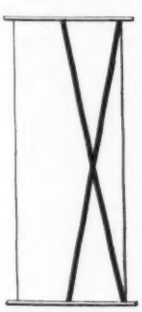
It is essential that the operative be instructed to place the same colors on the same spindle each doff; and, in order to insure this, it is suggested that the top rail of the box be plainly marked, as in Fig. 3.

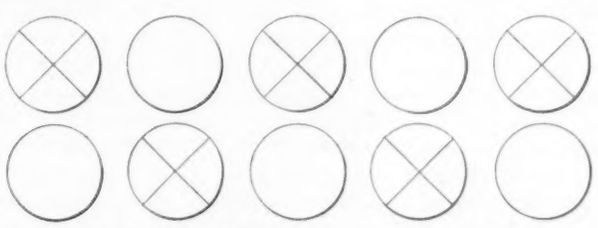
From the spindle gill box, four bobbins are taken and placed in the creel of the drawing box in the order given in Fig. 4. The object is to distribute the slivers, and to be sure that four ends do not go up the back rollers of the drawing box from the same spindle of the gill box.

The same practice is to be followed for the weigh box, and the overseer will be agreeably surprised to find practically no variation in his weights from the weigh box.

Coming from the weigh box to the second drawing box, the ends up will be three. The color of bobbins to put up is left to the discretion of the overseer, but care should be taken to use bobbins from different spindles as far as may be possible.

The whole idea may be carried through to the rover, and will, if followed out faithfully, eliminate considerable of the uneven yarn so prevalent today.





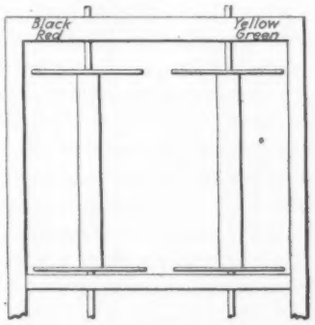


Fig. 1 (Left) Side of sliver can with large cross Fig. 2 (Above) Placing of cans behind spindle gill, seen from top. Fig. 3 (Right) mark of top rail

Don't Be Afraid of

Fig. 11. Instruments for Preparing Mounts

IN THIS article Mr. Schwarz continues his description of methods of mounting textile specimens, discussing the selection of glass slides and chemicals, and the technique of mounting specimens.

Article I, "Possibilities of Microscope in Textile Industry," April 27; Article II, "Types of Microscope Applicable to Textile Industry," May 18; Article III, "Handling the Microscope with Efficiency and Understanding," June 22 and June 29; Article IV, "Methods of Illumination," Aug. 17; Article V, "Useful Accessory Equipment," Sept. 21; Article VI, "Textile Micrometry," Oct. 26; Article VII, "Mounting Textile Specimens," Dec. 14.

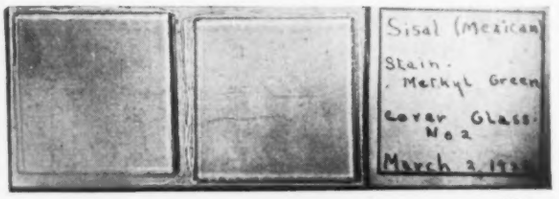


Fig. 9. Square Cover Glasses

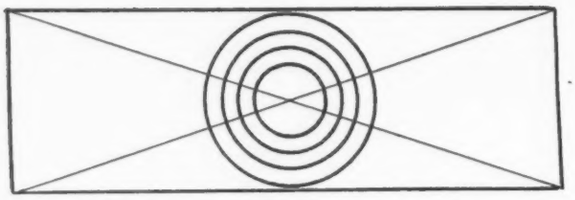


Fig. 10. Substitute for Turntable

BEFORE describing the technique of specimen mounting it will be well to discuss briefly the materials employed. The first necessity is a plentiful supply of glass slides three inches long and one inch wide. These may be obtained in the ordinary grade, which is of a slightly greenish tinge, and, at somewhat higher price, may be had in a special grade, which is white. The former will prove entirely satisfactory for the great majority of the mounts used in textile work. The latter is of advantage where accurate color tests are of importance.

In any case, the edges of the slides should be ground to prevent scratching the surface of the microscope stage, and for comfort in handling. At an increase in cost, selected slides of first-quality glass, and of thicknesses within prescribed limits can be secured. For dark-ground work, a thin slide is advisable, but one of these can be selected without difficulty from an ordinary batch. The thickness may be determined with a micrometer or, if the slide is first supported on edge in the microscope, by means of a calibrated eyepiece micrometer (see *Die Kunstseide*, Oct., 1929, p. 383, Fig. 16).

Special slides for various purposes may be obtained. Such slides may be provided with one or more concave depressions in which liquids may be conveniently retained; they also can be employed very satisfactorily with thick specimens, such as cross-sections prepared by the cork method. This type of slide allows the use of a cover-glass to protect the mount without the necessity for building up a cell.

Another style of slide, now obtainable from any dealer in microscopical supplies, has one end etched or ground to present a frosted surface (Fig. 5-B). Any information, which would normally be written on a label glued to the slide, can be written with a pencil on this portion of the slide. This is particularly convenient for temporary mounts, where the changing or superposition of labels is annoying.

Cover-glasses are available in many shapes and thicknesses; the most popular of these are listed in the following table:

COVER GLASSES

Shape	Dimensions	Thickness, No.*
Round	15 mm. diam.	1–2–3
Round	18 mm. diam.	1–2–3
Round	22 mm. diam.	1–2–3
Round	25 mm. diam.	1–2–3
Square	15x15 mm	1–2–3
Square	18x18 mm.	1–2–3
Square	22x22 mm.	1–2–3
Square	25x25 mm.	1–2–3
Rectangular	22x30 mm.	1–2
Rectangular	22x40 mm.	1–2
Rectangular	22x50 mm.	1–2
Rectangular	22x60 mm.	1–2
Rectangular	22x70 mm.	1–2
Rectangular	24x30 mm.	1–2
Rectangular	24x40 mm	1–2
Rectangular	24x50 mm.	1–2
Rectangular	24x60 mm.	1–2
Rectangular	24x70 mm.	1–2

*Thickness No. 1 varies from 0.13 to 0.17 mm. (1/200 to 1/150 in.)
Thickness No. 2 varies from 0.47 to 0.25 mm. (1/150 to 1/100 in.)
Thickness No. 3 varies from 0.25 to 0.50 mm. (1/100 to 1/150 in.)

For mounting yarns and long filaments, a rectangular glass, somewhat smaller than the slide, is necessary. While it is possible to use rectangular glasses with any of the mounting media described in the

the Microscope!

Article VII (concluded)
Mounting Textile Specimens

By E. R. Schwarz, S.B., A.T.I.

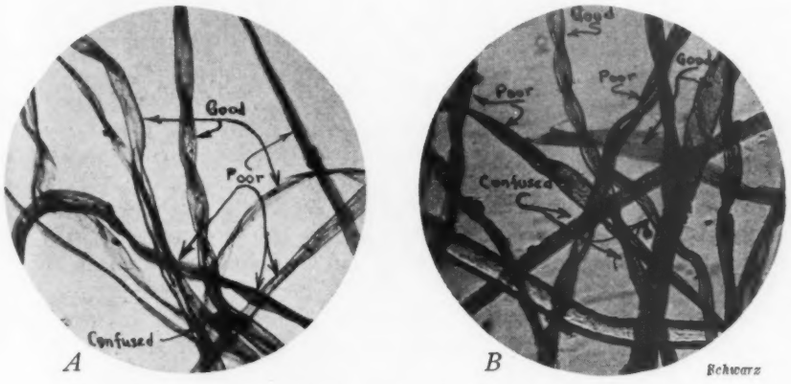


Fig. 12. Improper Mounting of Specimens

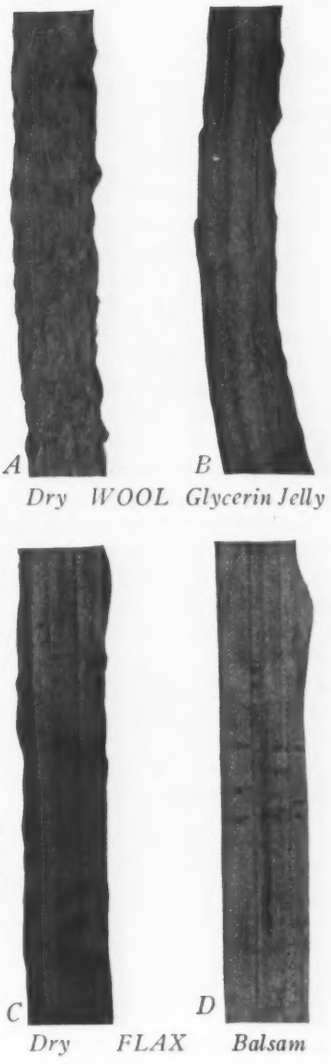


Fig. 14. Photomicrographs of Wool and Flax in Various Media

foregoing paragraphs, they are most often used for dry mounting. The quantity of medium required to fill the mount is large, and a mount of this class is very seldom required.

It will be found that the round cover-glass, or "circle," is much easier to use, and gives a neater appearing slide than does the square cover-glass. It is easier to finish with cement, and uses a minimum of mounting medium. Occasionally, when a number of rows of cross-sections are to be permanently mounted, the square cover-glass is best (Fig. 9). A supply of each type should be kept for use as required.

Some workers make use of especially engraved slides for quantitative determinations in connection with counting, measuring, etc. Herzog (*Die Kunstseide*, Sept., 1929) describes several types which can be employed in textile work where numerous determinations of the same sort must be made in succession or at frequent intervals.

Technique of Mounting

For the purpose of handling the slides with neatness and dispatch, while the mount is being made, a turntable will be found of considerable assistance (Fig. 7). The raised hand- and arm-rest makes delicate manipulation of the specimen easier to carry out; and the possibility of rapidly rotating the slide gives opportunity for building up neat cells, and for sealing a mount with cement. The rotating slide-holder is provided with concentric rings of diameters corresponding to the usual range of cover-glasses. The worker is thus enabled to center the specimen exactly, and, what is more important, to keep the material to be examined within the confines of the proposed mount.

If a turntable is not available, a convenient substitute may be devised from a piece of celluloid or cardboard. To make this device first draw on the card, with black ink, the outline of a slide. Then by means of a compass, add circles of the desired diameters at the center of the rectangular drawing. Place the card, thus prepared (Fig. 10), on the table top and cover it with a piece of glass. Tape may be used to bind the cardboard to the glass so that the whole device can be handled conveniently. While not possessing the rotary feature of the turntable, it will, nevertheless, serve very efficiently for the location and centering of the mount.

Necessary dissecting instruments may be purchased separately, or may be obtained in sets from botanical or biological supply companies. The set of instruments, however obtained, should include several pairs of small scissors, a scalpel, a razor-blade and holder (not the scraper type), ordinary forceps, spring-closing forceps, and several dissecting needles with handles (Fig. 11).

It will be found that when a great deal of work must be done in the form of paraffin sections, that a water bath, or, as it is termed, a "paraffin bath," will be of considerable aid. A thermostatic control insures the uniform heating of the paraffin, and also makes certain that the paraffin does not reach a temperature above its melting point, and thus is always ready for use. The baths are heated either by a bunsen flame or by electricity; when the latter is used an electric-light bulb, suitably housed, is usually employed.

To list in detail the chemicals needed for handling textile specimens as far as mounting is concerned, would be a difficult task. All that can be done is to state briefly

what reagents are in most frequent demand, and to outline their properties and uses. Bottles of sulphuric, hydrochloric, acetic, and nitric acid, together with supplies of sodium hydroxide, potassium hydroxide, ammonium hydroxide, copper sulphate, etc., should be available.

In addition, certain special reagents such as chlor-zinc oxide, ammoniacal copper oxide, etc., will be referred to, together with the methods of their preparation and use, when the subject of fiber structure is discussed in a later article.

Of more importance, for the present purpose, are adequate supplies of benzol, xylol, acetone, 95 per cent alcohol, ether, collodion, albumen-fixative, glycerin, glycerin-jelly, oil of cloves and distilled water. Benzol and xylol are solvents of paraffin and, with oil of cloves, serve as clearing agents. Acetone acts as a solvent for the cellulose cements, while ether dissolves collodion. Alcohol is the dehydrating and hardening agent; glycerin is used for softening the specimen, and, in the form of jelly, is used for mounting. Where a xylol solution of balsam is employed as the mounting medium, the evaporation of the solvent from the mount leaves the balsam in a hard, solid mass which has completely penetrated and enclosed the specimen in a transparent setting.

The refractive indices of various immersion liquids are given in the following table:

Substance	Index	Substance	Index
Water	1.33	Olive oil	1.48
Ethyl ether	1.35	Castor oil	1.48
Acetone	1.35	Xylol, meta	1.50
Ethyl alcohol	1.36	Benzol	1.50
Chloroform	1.44	Cedar wood oil	1.51
Carbon tetrachloride	1.47	Canada balsam	1.54±
Turpentine	1.47	Clove oil	1.54
Glycerine	1.47	Carbon bisulphide	1.63

Specimens are conveniently handled, while preparing them for mounting, in watch glasses, which may or may not contain a fluid of some sort. Very small fragments may be either separated or grouped, by floating them in a small amount of volatile liquid. A cover-glass manipulated with forceps—to avoid finger marks—can then be slipped under the fragments; when the liquid has evaporated, the fragments will be left on the glass. The latter is then inverted, and the mount completed as has been described. Where glycerin or glycerin-jelly is the medium to be used, water may be the supporting fluid; otherwise, a liquid which will not affect the state of

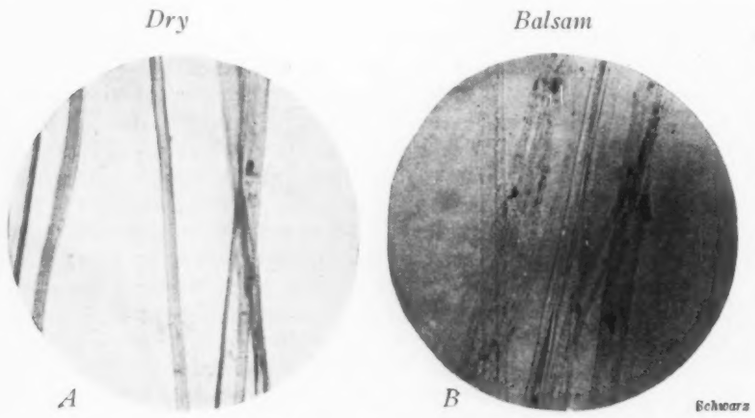


Fig. 16—Photomicrographs of Rayon

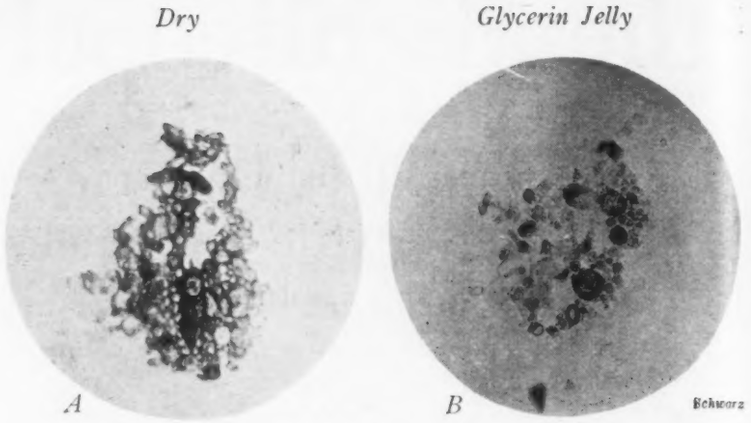


Fig. 15—Cross Sections of Camel's Hair

dehydration—as benzol, oil of cloves, etc.—should be used.

Considerable judgment, especially in the case of bast fibers, should be exercised as to the extent to which the dissection or "teasing out" of the specimen is to be carried.

Examination of a series of preparations in successive stages of dissection or maceration is the only reliable guide to future work. As for the question of the choice of the mounting medium, the final decision must be governed by what it is desired to show. Care must always be taken when small specimens are mounted, not to include so many in the mount that they overlap each other. The depth of focus of high-power objectives, such as will be needed for the critical study of many objects, is wholly insufficient to show such a group of objects. One filament may be clearly in focus, but another which passes beneath it, will be blurred (Fig. 12). It is usually wiser to limit the number of objects, particularly fibers, to not more than five, and to make sure that these do not cross or otherwise interfere with each other.

Materials which are in powder form, such as starches, are best dusted over a clean cover-glass; the glass is then inverted and placed on a drop of mounting medium. The latter will spread and fill up the space between the cover-glass and the slide.

Advanced Technique

Fresh tissue is only occasionally met with in the ordinary run of textile work, and it requires more careful handling and a somewhat more elaborate technique. Plant stems or unripe fibers would come under this classification. Such material contains considerable moisture, which will not combine with the balsam. Where a glycerin-jelly mount is not desired, the first step is dehydration. This may be performed conveniently by soaking the specimen for some minutes in 95 per cent alcohol. Follow this treatment with a clearing bath which removes the alcohol, and renders the specimen transparent. Both operations can be carried out conveniently on the slide.

The specimen is covered with a drop of alcohol, and after a few minutes this is drained off and another portion of the fluid applied. After draining—aided by a piece of filter or blotting paper—the clearing agent is applied, the method of treatment being as before. Finally a drop of balsam is allowed to fall on the specimen and a warm, clean cover-

glass is lowered into place. The cover-glass should be held with forceps, and one edge placed in contact with the balsam. The cover-glass is then lowered into position slowly, the operator taking pains that the specimen is not floated to the edge of the glass and that air bubbles are not formed. A light weight (large, flat-headed screws will be found excellent) can then be placed on the mount, and the whole allowed to stand protected from dust beneath a bell-jar until hard.

Use of Glycerin Jelly

When using glycerin-jelly, it will be found advisable to melt a small lump of jelly in a watch-glass, making sure that it does not bubble up. With the aid of a slender, glass rod, a small drop of the melted jelly is then placed on a clean slide. The specimen is placed in this drop. A smaller drop may then be placed on the center of a clean cover-glass, and the latter inverted and placed on the specimen. If the small drop of melted jelly is not used in connection with the cover-glass, there will, almost surely, be a number of air bubbles in the final mount. Some authorities favor placing a small lump of jelly on the slide. The latter is then held a few inches above the flame of a bunsen burner to melt the jelly. The cover-glass is treated in the same manner. The author has not found this method as convenient, or as neat as the former procedure. It is much harder to estimate the proper size of lump to just fill the space beneath the cover-glass, and it is not at all easy to get a lump of the desired size. The scheme calls for more handling of the slide, which is never desirable; and, all-in-all, it seems much less efficient than the other method.

For slides which are to be preserved indefinitely, it is desirable to seal the mount with a waterproof cement. Bell's microscope cement is very satisfactory for this purpose, because of its quick drying property and its toughness. The slide to be sealed is centered on the turntable; a long sable-hair brush is charged lightly with cement; and, as the turntable is rotated by spinning, a light ring of cement is run around the edge of the cover-glass, where it joins the slide. Several coats should be applied in succession, the brush being charged with a larger amount of cement for subsequent coats than for the first ring. The final coat may be of colored cement, made by treating a small amount of clear cement with dye of any desired color, as black, dark green, or dark blue. This mount is unmistakable for an unsealed mount.

Labeling of the slides is important. The label should bear not only the name of the preparation, but it should also carry all the other information which may be of importance when the slide is examined at a later date, or by another investigator. In general, the label should carry the following information:

1. Name of specimen.
2. Type of mount (longitudinal, cross section, etc.).
3. Stain (if any).
4. Thickness of cover-glass (if for critical work).
5. Date.
6. Descriptive information of interest or for identification.
7. Location of points of special interest.

The importance of the first five items is self-evident. Item No. 6 is of considerable consequence when the slide is one of a group of similar mounts containing objects which have been subjected to different treatments, etc. Item No. 7 may be recorded in any convenient form. Where only one microscope is in general use, this may be the readings of the mechanical stage verniers. A definite convention as to the position of the label, when the slide is in place on the microscope, must be adopted. It is convenient to so arrange the slide that the label will always be right side up and directly readable when the operator is in the working position at the instrument. Now it is only necessary, for future study, to set the stage-verniers at the readings given (e.g., $v = 78.2$; $h = 51.3$) to locate the desired portion of the field. Other descriptive abbreviations may be employed where the character of the mount permits. Such phrases would be "2nd from left, bottom row," "4th from right, middle row," "lower left quadrant," etc. A notebook may be used for a more extended record.

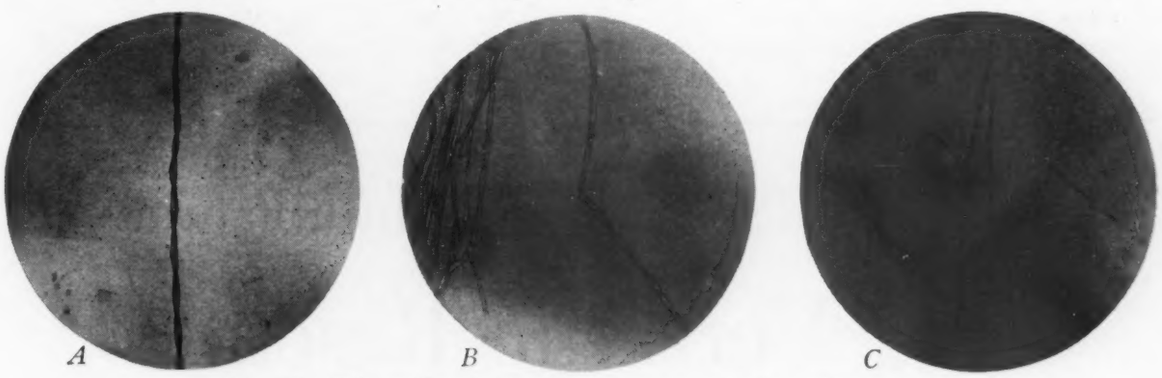


Fig. 13—Photomicrographs of cotton mounted in various media

It is not necessary to waste or to destroy used slides which are no longer required. The cover-glass may be removed and the specimens loosened from even a thoroughly hardened balsam mount, if the slides are soaked for several days in a strong solution of borax in water. Both slides and cover-glasses may be cleaned and used again and again. It was considered for a long time that slides must be rubbed with alcohol, and passed through a bunsen flame, before they were sufficiently clean for re-use. It is now recognized that treatment with Bon Ami, from a cake or in powder, is quite sufficient. The film of cleaner should be allowed to dry, and then the glass may be polished with a soft cloth or chamois to a surface which is optically clean. A drop of water placed on such a surface spreads out into a film instead of retaining its globular character.

The only way to become familiar with the mounting of specimens for the microscope and to acquire facility in the necessary technique, is to actually prepare the different types of slide for examination. Knowledge of the proper mount to use for a given purpose marks the difference between the expert and the novice.

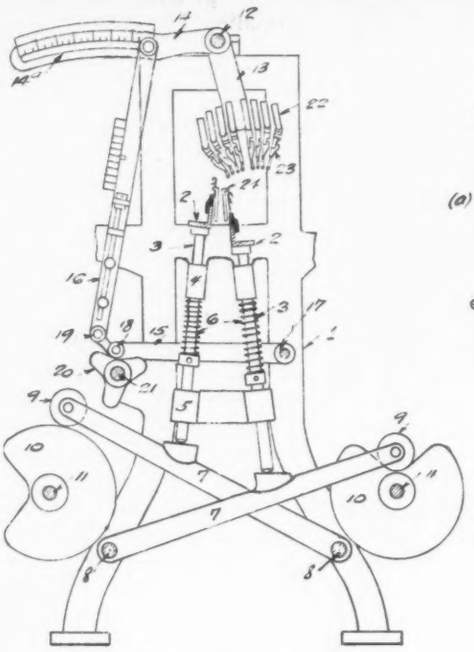


Fig. 163. End View of Simple Two-Bed Latch-Needle Warp or Raschel Machine

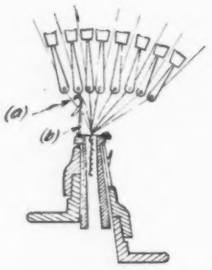


Fig. 164. Relation of Eye Needles to Knitting Needles

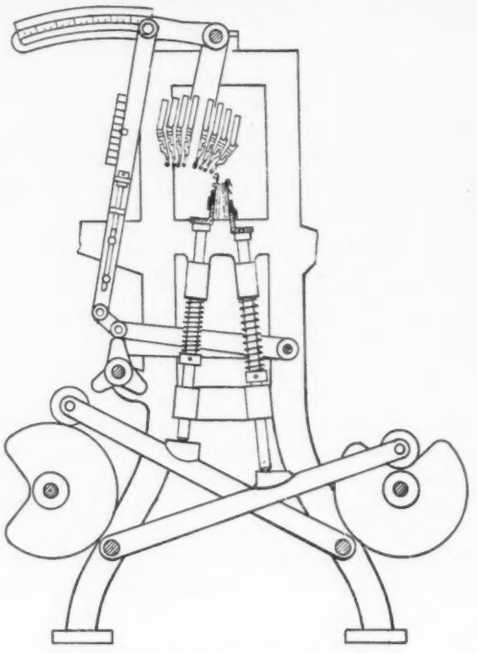


Fig. 165. Eye Needles Swing to Different Position from that Shown in Fig. 163

Making Varied Designs and Plush Fabrics on

The Versatile Raschel

By M. C. Miller, M. E.

Mechanical Engineer, Manville, R. I.

AS PREVIOUSLY noted there are many types of warp-knitting machines, only the simple single-needle-bar type having been previously described. We shall now show and describe the more intricate two-needle-bed or Raschel type.

In its simplest form, this machine is equipped with latch needles which are arranged back to back and supported and operated about as shown in Fig. 163, which is a somewhat diagrammatic end-view drawing of a simple two-bed latch-needle warp or Raschel machine.

Details of Machine

The machine frames 1, of which there are at least two, support the various shaft levers and cams, the needle bars 2 being supported by at least four angularly mounted sliding push rods 3 which are supported in their upper and lower frame bearings 4 and 5. In this model there are provided springs 6 for lowering the needles, although in many constructions the downward and upward motions are both positive. Underlying these push rods 3 are the levers 7, which are fulcrumed at 8 and which are equipped at their outer end with the rollers 9. These rollers operate on the cams 10, which are rigidly fastened to and rotated by the shafts 11.

This machine is further equipped at its upper end with the shaft 12, which supports a number of depending levers 13. This shaft is free to oscillate, and is caused to do so by the lever or levers 14, which are connected to the levers 15 by the links 16. These levers (or lever) 15 are fulcrumed at 17 and are equipped near their outer ends with the rollers 18. They are connected to the links 16 with the pins 19, and are operated by the cams 20, which are rigidly fastened and rotated by the shaft 21. This shaft is either continuously rotated in unison with the shaft 11 or, more usually, intermittently rotated through some form of Geneva or intermittent cam drive motion.

Fastened to the depending levers 13 are a number of supports 22 which carry the eye-needle bars 23. The construction under discussion provides for eight sets of such bars.

The object of the slot 14*a* is to permit the links to be set at different positions so as to move the eye-needle bars a greater or less distance in accordance with the design requirements. The eye-needle bars 23 also, of course, have an endwise motion as previously described

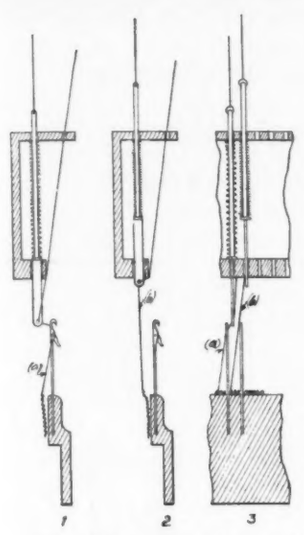


Fig. 166. Operation of Eye-Needles under Jacquard Control

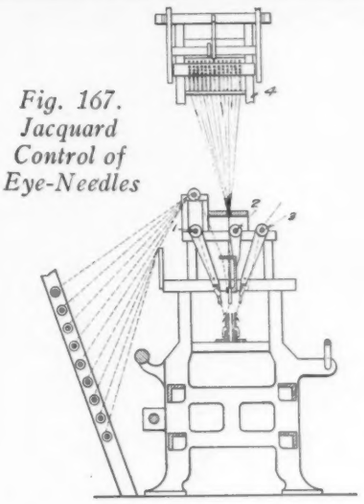


Fig. 167. Jacquard Control of Eye-Needles

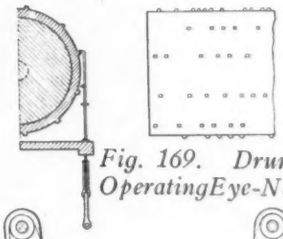


Fig. 169. Drum for OperatingEye-Needles

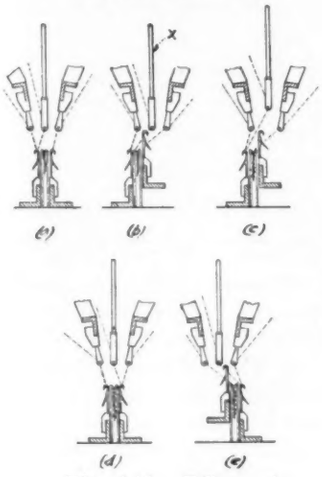


Fig. 168. Effect of Raising Eye-Needles

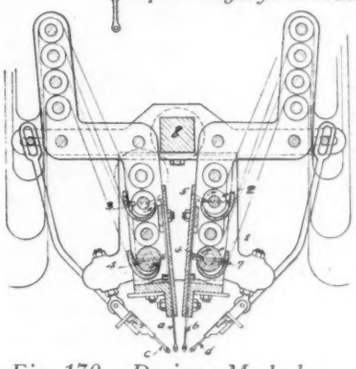


Fig. 170. Designs Made by Means of Perforated Sheet

(this endwise motion of the needle bars is common to all warp machines).

There are further provided two bars 24, extending throughout the machine width, which are fixedly carried by the frames 1 and which are slotted at their upper ends to guide the needles. The upper surfaces of these bars provide for the knocking over of the loops. It is to be understood that the needles are fastened in the needle bars 2 in accordance with the gauge, and that the slotting of the bars 24 is of like gauge.

Operation of Machine

In operation, therefore, the shafts 11 are continually rotated, causing an alternate movement up and down of the needles, the needles resting for a period of time in their upper position. This rest permits the movement of the depending levers 13, so that bars 23 with their eye-needles can pass between the knitting needles, and thereafter be shifted endwise in order to wrap the yarn around the knitting needles. The degree of movement of the eye-needle bar through and between the knitting needles is dependent upon the position of the link 16 in the slot 14*a*, so that any one of the eight yarns can be handled.

It is further possible by changing the shape of the cam 20 or its movement, and (or) by altering the shape of the cams 10, to lay the same yarn either over both sets of needles or over only one set, in this manner producing different designs on the back and face of the cloth. It is also, of course, possible to produce two separate pieces of cloth at the same time.

An enlarged end-view section drawing of the eye-needles in relation to the knitting needles is shown in Fig. 164; while in Fig. 165 is shown the eye-needles swung to another position from that shown in Fig. 163. As shown in Fig. 164, the yarns marked *a* will, when the eye-needle bar is shogged, wrap themselves around the needles *b* and be knitted into the fabric, whereas the other yarns shown will not be knitted. Whether a yarn is knitted into the fabric or not at any one stroke depends entirely upon the degree of movement of the eye-needle bars, and for more intricate designs the machines are so constructed as to move each eye-needle bar endwise, separately, in this manner, of course, greatly diversifying the design possibilities. Also, of course, differently colored yarns can be drawn into any, or part of any, set of eye-needles.

Jacquard Control

In order to increase still further the design possibilities, certain of the eye-needles can be made movable up and down in relation to the needles, as shown in the Figs. 166, 167, and 168. While a somewhat differently constructed machine is necessary, it will clearly be seen that the general idea of this machine is similar to the one illustrated in Fig. 163—with the exception that the eye-needle bars are somewhat differently constructed and supported.

In the particular construction illustrated there are three separate sets of bars carried by the shafts 1, 2, and 3 (Fig. 167). These shafts are oscillated in a similar manner to the oscillating of the shaft 12 shown in Fig. 163.

The eye-needle bars on the shafts 1 and 3, due to their being rigid in relation to each other, act only to feed their yarns to all the needles. The eye-needle bar supported by the shaft 2, however, is fitted with movable eye-needles controlled by the jacquard 4, so that this set of eye-needles can move up and down in relation to the knitting needles.

This up-and-down movement is shown by 1, 2, and 3 of Fig. 166, of which 1 and 2 are end-view elevations, and 3 is a side elevation of the needles. It is quite obvious that any eye-needle in the low position, as shown in 1, is capable of wrapping its yarn around the needle, as further shown in 3, whereas any raised eye-needle, shown in 2 of this figure, cannot wrap its yarn around the needle. This is further shown in 3, wherein it will be noted that the *b* thread is not wrapped around the needle but the *a* thread is so wrapped.

This is further shown in the five views in Fig. 168, *b* showing that the movable central eye-needle *x* when in the low position as herein shown can present its yarn to the hook of the needle. If this eye-needle is raised as shown in *c*, the yarn will not be presented to the

Fig. 171. Showing Pin and Spring

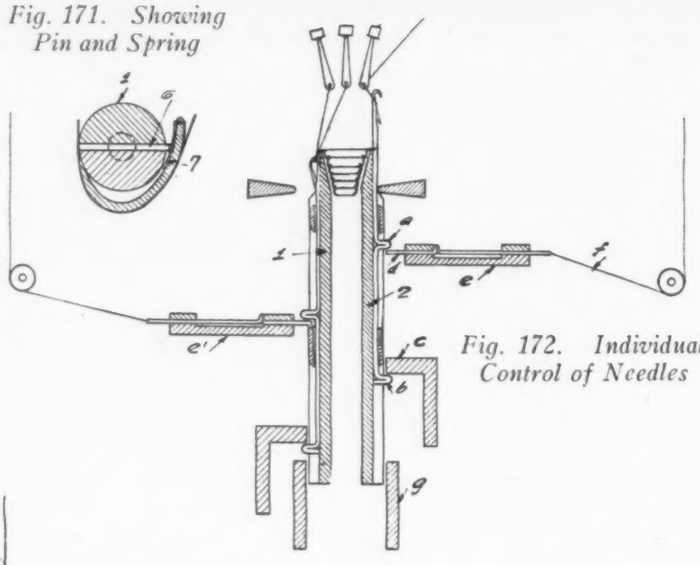


Fig. 172. Individual Control of Needles

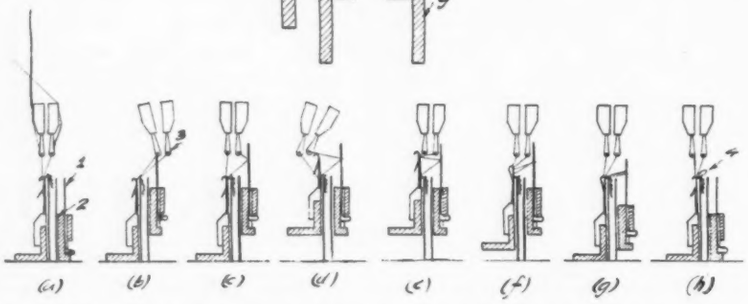


Fig. 173. Making Plush Fabrics on Warp Knitting Machinery

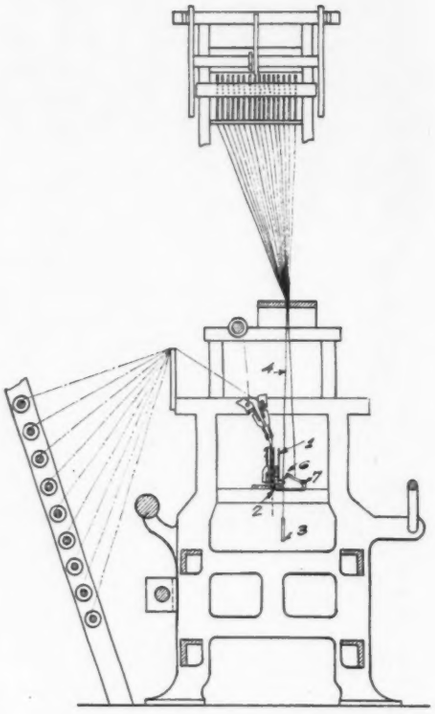


Fig. 174. Jacquard Control of Plush-Pins

needle hooks. The same is true for the other set of needles, as shown in *d* and *e*. With this type of construction it is possible to knit design fabrics in which yarns carried by the central eye-needles can be knitted only when desirable. This is not possible with the fixed-eye-needle-bar type of machine, in which all needles receive yarn from any one of the eye-needle bars unless certain of the eye-needles are not threaded. It is of course possible to thread any eye-needle with a different color or quality of thread, and in this way get a variation of the design even if the eye-needles are not movable independently of each other.

Methods Other Than Jacquard

For certain limited designs eye-needles have been moved to become active or inactive by mechanism other than the jacquard. A construction of this sort is shown in Fig. 169, in which a drum is shown which is provided with pins or buttons in accordance with a preconceived design.

A more elaborate design of pattern mechanism, and one with which it is possible to produce an endless variety of patterns, is shown in Fig. 170. Two sets of eye-needles *a* and *b* can be independently controlled so as to knit or not. The construction is shown with two additional sets of fixed eye-needles *c* and *d*. In operation the rolls 1, 2, 3, and 4 are rotated in the directions shown by the arrows and are thereby caused to feed an endless tape. The tape is provided with holes arranged according to the design desired, through which pins 5 and 6 can be projected by the springs 7 (shown in Fig. 171).

There are two sets of these rolls for each set of eye-needles in order that this construction may be used in fine gauges. The pins in the lower roll act on alternate butts of the eye-needles, while the upper roll acts on the remainder of the butts, in this way permitting a relatively coarse-gauged roll construction. It is to be understood that there is a pin provided for each butt, each pin having the spring 7 to project it. The entire assembly shown in Fig. 170 is, of course, oscillated back and forth across and between the needles and is moved endwise in a similar manner to the construction of eye-needles previously described, all in accordance with the desired pattern. In the construction under discussion the square shaft 8 provides the fulcruming means.

Controlling Individual Needles

All the machine constructions heretofore described have had their needles operated as a body; that is, all the needles of one needle bar operated as a unit. As it is at times desirable to cause only certain needles to knit—as when knitting open work, lace, or other designs—various constructions have been evolved for causing only certain of the needles involved in the operation to be raised.

One such construction is shown in Fig. 172. In this construction the needle beds 1 and 2 are rigidly mounted and are slotted to receive the needles, which are free to move endwise therein. The needles are provided with the butts *a* and *b*, the *b* butt being acted upon by the bar *c* to draw downward any needle that has been raised, while the butt *a* can be acted upon by the pins *d*. These pins—of which there is one for each needle—are movable endwise in the bed *e*, and the bed is free to move up and down. The pins meanwhile are caused to be either in or out by the action of the cords *f*, which can be connected to a suitable jacquard or other pattern mechanism. The machine is further provided with up-and-down-moving bars *g*, which are capable of at times being operated to raise all the needles.

In use the machine functions as follows: The pins *d*, which are normally held in the projected position shown in Fig. 172 by the action of their springs, are selectively operated by the cords *f*, certain of them being projected out of the bed *e* and certain of them drawn into the bed—the bed *e* at this time being in a low position as shown at *e'*. After the jack cords have selected all pins *d* which are to be withdrawn, the bed *e* moves upwardly, thereby raising the needles associated with the projected pins and permitting needles associated with the retracted pins to remain in the low position, the bar *c* having been previously lifted. The eye-needles then lay and wrap their yarns around the raised needles. Afterward the bar *c* draws such needles as have been raised down, and thereby causes them to produce loops of fabric, whereas such needles as have not been raised do not receive yarn and do not produce loops. It can readily be seen that with the construction described a great variety of fabrics can be produced. If this construction be combined with a mechanism for controlling individual eye-needles, and if, further, each eye-needle bar can be individually shifted endwise, almost any variety of pattern can be knitted—making such machines the most versatile in the knitting industry.

Plush Fabrics on Warp Machines

It is further quite a simple matter to produce plush fabrics on warp machines, Fig. 173 showing a simple form of such mechanism. In this figure, *a* shows the ordinary needles, and at their back is shown a series of pins 1. There is usually one pin for each needle. These pins in this construction are mounted in slots in the pin bed 2, but for this present description we shall imagine them as always working in unison. While the needles are still in the low position, the pins 1 are lifted as shown in *b*, and thereafter the eye-needles are moved from the position shown in *a* to the position shown in *b*. The eye-needles 3 in view *b* have passed beyond the back line of the pins. The needles are still down and the pins are remaining up.

The eye-needles 3 now shift endwise and then toward the needles, as shown in *c*. Immediately thereafter the needles are raised, as shown in *d*, followed by a further movement of both eye-needle bars, as also shown in this figure. Thereafter, both sets of eye-needle bars shift endwise and then move toward the back of the needles, as shown in *e*, thereby wrapping their yarns around the needles. Thereafter the needles descend, as shown in *f* and cast off the last course of loops, as shown in *g*. Then the pin bed 2 descends, casting off its plush loop 4, as shown in *h*.

With above mechanisms and movements it is possible to produce plush fabrics, as these loops 4 can be later cut and otherwise finished. Mechanisms of this type could, of course, work in conjunction with a multiple series of eye-needle bars, and thereby produce color or other designs of plush fabrics. If these pins 1 are not moved as a unit but are moved with jacks or other pattern means, as shown in Fig. 174, any one or all of the pins can be raised. In this diagram each butt has attached to it a weight 3, and, instead of the pin bed 2 moving up and down, the pins 1 are attached to cords 4 which lead to the jack 5 (Fig. 175). There is further provided the iron 6, which extends throughout the machine width and is hinged at 7. This lowers all pins which have been raised by the jacquard. It is planned in this construction to have the weight of the iron 6 lower the pins. This is quite feasible for the reason that each pin is already equipped with a counterweight 3.

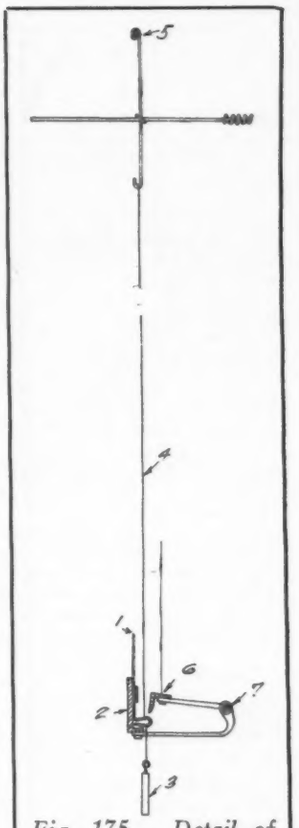


Fig. 175. Detail of Plush-Pin Control

With the jacquard pin control just described it is possible to produce design plush fabrics, there being no limitation for the reason that a jacquard is used.

This article is the 24th of Mr. Miller's series, "Principles of Knit Fabric Production," a comprehensive study of the past, present, and future of knitting mechanism. All rights to the use of this treatise are reserved. Previous articles appeared Jan. 23, Mar. 27, May 15, July 24, Sept. 18, and Nov. 20, 1926; Feb. 19, Apr. 9, June 18, Aug. 20, Oct. 22, and Dec. 24, 1927; Feb. 18, June 23, Aug. 18, Oct. 20, and Dec. 22, 1928; Feb. 16, Mar. 23, Apr. 20, June 22, Aug. 24, and Oct. 19, 1929.

◆

WE ARE drawing near to the end of Mr. Miller's articles on warp knitting, but by no means near the end of his remarkable series on development and possibilities of the knitting mechanism, of which the warp knitting articles are only a part. Mr. Miller's next discussion will fill a long-felt want in a field about which far too little information has been printed—viz., the knitting of full-fashioned hosiery

NEWS about MEN

L. A. YERKES, president of the Du Pont Rayon Co.; B. G. SLAUGHTER, president of the Artificial Silk Co. of America; EUGENE DU PONT, F. S. MACGREGOR, and ERNEST N. MAY, manager of the Du Pont Rayon Co.'s plant at Ampthill, near Richmond, Va., were guests at a dinner given in honor of GEORGE M. WELLS, president of the Atmospheric Nitrogen Co., at the Commonwealth Club in Richmond, Va.

J. N. WYCKOFF, president of the Wyckoff Knitting Co., Perry, N. Y., and GEORGE M. TRABER, head of the Perry (N. Y.) Knitting Co., have been made honorary members of the Perry Rotary Club in recognition of their many years of community service. A hand-inscribed scroll, bearing the autographs of each member of the club, has been presented to the two textile men.

BERNARD DAVIS, head of La France Textile Industries, Philadelphia, has extended an invitation to members of the Fellowship of the Pennsylvania Academy of Fine Arts, the "T" Square Club and the Artists' Guild to spend an evening in the galleries of La France Institute, where an unusual collection of paintings are on display. Mr. Davis was one of the founders of this institute.

●

F. G. DANIELS, president and general manager of Dominion Textile Co., Ltd., is at present in the southern states.

B. B. GOSSETT, president of the Chadwick-Hoskins Co., of Charlotte, N. C., will address the students and faculty of the North Carolina State College, Dec. 19. He will speak under the auspices of the Tompkins Textile Society of the State College textile school, and a part of his address, it is understood, will be devoted to the labor situation in North Carolina.

CHARLES A. CANNON, president of Cannon Mills, Inc., has donated miniature gold footballs to the victorious football team of the Concord, N. C., high school which recently won the Class B state championship.

NORRIS BACHMANN, of L. Bachmann & Co., left Dec 17 for an extended trip West and will spend some time in Los Angeles.

CHARLES K. MOSER, chief of the Far Eastern Division of the Dept. of Commerce, Washington, D. C., has resigned and joined the Pepperell Mfg. Co., Boston, Mass. In his new capacity Mr. Moser sails Dec. 20 from San Francisco on the S.S. "President Taft" to study business conditions in the Far East and their relation to the products of the Pepperell company.

JOHN SMITH has been re-elected president of the Employes' Mutual Benefit association of the Linen Thread Co. of Massachusetts, North Grafton, Mass.

W. H. COOPER, for many years vice-president of S. Sanford & Sons, Amsterdam, N. Y., and family, have sailed for an extended sojourn in the West Indies.

DR. W. O. MITSCHERLING has resigned as vice-president of the Max Ams Chemical Engineering Corp., of Bridgeport, Conn., and will in the future devote practically all his time to the A. M. Johnson Rayon Mills, of Burlington, N. C.

Harry R. Davies, president of Dyestuff Corp. of America, recently elected treasurer of American Association of Textile Chemists and Colorists

JOSEPH BANCROFT of the Joseph Bancroft & Sons Co., Wilmington, Del., has been elected State vice-president for Delaware of the Rivers and Harbors Congress, which recently held its 25th annual meeting at Washington, D. C.

DR. J. A. HARTSELL has been elected vice-president of Hartsell Mills Co., Concord, N. C., of which his father, the late J. L. Hartsell, was president and treasurer. E. L. DAVIS, formerly secretary, has been elected treasurer.

●

FRED A. POWDRELL, vice-president and treasurer of the W. T. Grant Co., has resigned and will take an active part in the affairs of Powdrell & Alexander, Inc., operating plants in Danielson, Killingly and Attawagan, Conn., in the production of curtain materials. Mr. Powdrell will continue as a director of the Grant company.

DR. HARRY CLARK of Furman University, will be the principal speaker at the meeting of the Greenville Textile Club to be held in the Parker high school auditorium on Dec. 20.

WALTER MUNROE BROWN, JR., associated with his father, W. M. Brown in the Brown Hosiery Mills, Burlington, N. C., was married Dec. 12 to Miss Margaret Elizabeth Holt, of Greensboro, N. C.

The following officers have been elected for the Walker County Hosiery Mills, Lafayette, Ga.: W. A. ENLOE, president; J. M. PATTON, vice-president; W. B. SHAW, secretary; A. S. FORTUNE, treasurer and buyer; and H. S. LOVERN, superintendent.

RICHARD E. DWIGHT, of the firm of Hughes, Schurman & Dwight, lawyers, has been elected a director of the Belding-Heminway Co., Watertown and Putnam, Conn. Mr. Dwight is a director of the Amalgamated Silks Corp., C. K. Eagle & Co., Inc., and E. Gerli & Co., Inc. He has acted as corporation counsel for leading silk companies.

●

LEWISTON, MAINE. At a meeting of the Androscoggin Valley Mill Mens' Association these officers were elected: President, JOHN H. WHITE, of the Cowan Mill; vice-president, FRANKLIN J. WITHAM; secretary, JOHN F. MURPHY; treasurer, JOHN W. R. MORRISON.

J. L. BRAMAN, secretary of F. C. Huyck & Sons, Albany, N. Y., has been elected a director of the Y.M.C.A. in that city for the coming year.

FRANK E. CURRAN, secretary-treasurer of the Greensboro (N. C.) Full-Fashioned Hosiery Mills, has sold his interest in that concern and after Jan. 1, will become treasurer of Mock, Judson, Voehringer Co., Inc., of Greensboro.

GEORGE C. DUNN, secretary of the Blackstone Valley Mills Association, has resigned his position as secretary and sales manager for Allen & Allen, Inc., Providence, R. I., to become associated with the Anderson Mill Supply Co., Danielson, Conn.

I. I. DAVIS, secretary of the Hartwell Mills Co., Concord, N. C., has been appointed treasurer, also.

FRANK D. CHENEY of Cheney Brothers will be the company's representative at their sales headquarters in New York. This announcement was made Tuesday by CHARLES CHENEY, president of Cheney Brothers, South Manchester, Conn.

E. W. S. JASPER, importer of knitting machine needles, returned to New York on the "Berengaria" after a business tour touching Germany, Austria, France and England.

CHARLES F. MARBLE, treasurer of the Curtis & Marble Machine Co., Worcester, Mass., has resigned his position as president of the Worcester Industrial Trade Schools after 22 years of service.

W. IRVING BULLARD, treasurer of The National Association of Cotton Manufacturers for the last 12 years, was reappointed to that position and RUSSELL T. FISHER was again appointed secretary at the meeting of the Board of Government in the Association's offices in Boston Dec. 13.

Henry Miller

Joseph P. Grundy, the Philadelphia worsted spinner and advocate of protective tariff who has been appointed Senator from Pennsylvania

HARLAN T. PIERPONT, treasurer of the Worcester (Mass.) Silk Mills Corp., has been elected a director of the Utilities Hydro & Rails Shares Corp.

T. E. DILL, formerly with the Piedmont Plush Mill, at Greenville, S. C., recently went to the Waynesboro, Va., plant of the DuPont Rayon Co.

JOHN J. WHALEN, office manager of the Asbestos Spinning & Weaving Corp., Cohoes, N. Y., has been chosen vice-president of a new business men's organization formed at that place for the interests of the city.

BENJAMIN F. PROUD, general manager of the New Bedford (Mass.) Rayon Co., has been nominated by Gov. Frank G. Allen as a trustee of the New Bedford Textile School, succeeding JOHN L. BURTON, agent of the Nashawena Mills, New Bedford, who has resigned after serving 12 years.

●

W. W. QUINTON has taken a position as manager of the Manville-Jencks Co., Manville, R. I. Mr. Quinton expects to take up his new duties about Jan. 1. He leaves a similar position at the Lockwood Co., Waterville, Maine.

C. BATEMAN, office manager of the Lexington (S. C.) plant of the Martel Mills, has resigned.

L. B. FOSS, agent of the Ray Mills, American Woolen Co., Franklin, Mass., has accepted a position as manager of the Mayfield (Ky.) Woolen Mills.

W. N. THOMAS, assistant general manager of the Dixie Mercerizing Co. of Chattanooga and Lupton, Tenn., who is recuperating at Miami, Florida, from a recent severe illness, is getting along nicely.

ROBERT L. DAWSON is the new mill agent at the Mayfield (Ky.) Woolen Mills. He is a graduate of the Philadelphia Textile School; formerly mill superintendent in five different mills and had eight years in the New York market with American Woolen Co. and two years with the Mayfield Woolen Mills, at the Cincinnati office.

COL. HENRY G. HESTER has been elected for the sixtieth time, superintendent and secretary of the New Orleans Cotton Exchange. He was first elected superintendent of the local exchange early in 1871, and a few months afterwards was made secretary. Col. Hester was re-elected at the end of that year, which makes the sixtieth time he has been elected secretary and superintendent, rounding out practically 59 years of service in the exchange.

WILLIAM H. CADY, who has been associated with the Pacific Mills, Lawrence, Mass., for the last seven years as research chemist, has been appointed chief chemist with the Slater Co., Inc., Webster, Mass. Mr. Cady is prominently identified with the American Association of Textile Chemists & Colorists, being chairman of its northern New England section and a member of its research committee.

J. A. CLARK, of Providence, R. I., formerly with the Rhode Island School of Designs, is to become associated with the Dutchess Bleachery, Inc., as chemist.

DAVID MCGILL, chief chemist, Wabasso Cotton Co., Ltd., Three Rivers, Que., Can., has resigned from his position.

WILLIAM J. REYNOLDS, who was formerly with the American Piece Dye Works, Passaic, N. J., is now associated with the American Dyeing & Finishing Co., Brooklyn, N. Y.

WILLIAM YELTON, who has held an important position with the Eastside Mills, Shelby, N. C., has resigned to accept a position with the Broad River Mills, Selma, N. C.

D. K. DYER, formerly with the Washington Silk Co., Berwick, Pa., is now connected with the Klots Throwing Co., Inc., Carbondale, Pa.

FRED M. BRODIE, superintendent of spinning at the Mohawk Carpet Mills, Amsterdam, N. Y., was elected vice-president of the Chamber of Commerce at that place at the annual organization meeting.

T. F. CUDDY is now superintendent of American Yarn & Processing Co. plants at Maiden, N. C., and Mt. Holly, N. C.

W. H. BAXLEY, formerly of Darlington, S. C., is now superintendent of the weaving department of the Mansfield Mills, Inc., at East Lumberton, N. C.

E. J. BROWN, formerly superintendent of a hosiery mill in Mount Airy, N. C., is now with the American Dye Works, Burlington, N. C.

C. T. FREEMAN, formerly superintendent of the Howard Silk Throwing Co., Mebane, N. C., has accepted the position of sales representative of the Broadway Silk Co., New York.

J. W. BALL is now superintendent of the Parks Hosiery Mills, Inc., Asheboro, N. C., manufacturers of women's silk seamless hosiery.

●

R. H. GADDY, of Albemarle, N. C., has recently become superintendent of the full-fashioned department of the Magnet Knitting Mills, of Clinton, Tenn.

GEORGE GIFFEN has taken a position as superintendent of the Assabet Mills, American Woolen Co., Maynard, Mass. Mr. Giffen was formerly superintendent of the Geo. E. Duffy Mfg. Co., Worcester, Mass.

FRED T. LAWSON is now superintendent of the converting department of the Carolina Dyeing & Winding Co., Mt. Holly, N. C.

THOMAS JOY, of Westminster, S. C., is now superintendent of the production department of Thorndike Co., West Warren, Mass.

P. A. PARGETER has been appointed superintendent of the Black Mountain (N. C.) Hosiery Mills.

S. H. SHERMAN has entered upon his new duties as superintendent of the Lenoir (N. C.) Cotton Mills.

HENRY ROBINSON has been promoted from overseer of weaving to assistant superintendent of the Columbus (Ga.) Mfg. Co., succeeding WALTER B. DILLARD who resigned to accept a similar position at Thomaston, Ga.

R. B. BETTS is now master mechanic at the Columbus (Ga.) Mfg. Co.

LEON COTHRAN has tendered his resignation as master mechanic at the McComb (Miss.) plant of the Mobile Cotton Mills.

G. E. FAULKENBERRY, a graduate of the Textile School, Clemson College, S. C., has accepted a position in the dyestuff division, DuPont Co., Charlotte, N. C.

H. L. GREY has been made second hand of weaving at Swift Mfg. Co., Columbus, Ga.

ERNEST GUAY has taken the position as boss spinner in the Champlain Silk Mills, Whitehall, N. Y.

H. C. DUMAS has accepted the position as foreman of winding for the Dyersburg (Tenn.) Cotton Products Co.

L. L. DICKERT, head of the spinning department of the Middleburg plant, Martel Mills, Batesburg, S. C., has resigned.

W. D. LAWSON, overseer of spinning and winding at the Tolar, Hart & Holt Mills, Fayetteville, N. C., has resigned.

NEWS about MILLS

Cotton

Seamless Net Co., South Manchester, Conn., operated by the Manchester Net Co., has filed preliminary notice of company dissolution. It is understood that all operations, including company identity, will be consolidated with the Manchester company.

Powdrell & Alexander, Inc., Danielson, Conn., are considering plans for the construction of a large bleachery unit in Danielson. Business of the company has increased from $2,250,000 in 1925 to the present annual sales amounting to $7,500,000.

Goodyear-Clearwater Mill No. 2, Rockmart, Ga., was formally dedicated Dec. 12 in the presence of Gov. L. G. Hardman, of Georgia, and other notables. It is the third 50,000 spindle mill to be put into operation in Georgia by the Goodyear company in the last several years, and will be in full operation by Jan. 1, 1930, it is expected.

Adams Duck Mills, Macon, Ga., have installed a number of atomizers and 19 humidifiers. American Moistening Co. was in charge of the work.

Baldwin Mfg. Co., Elk Mills, Md., is planning the erection of another unit to its weaving plant. Contract has been let to the Austin Co., of Philadelphia.

American Thread Co., Holyoke, Mass., went on a half-time schedule Dec. 16 until the middle of January, when it is expected full time will be resumed. About 1,200 employes are affected.

Eureka Mfg. Co., Inc., Lincolnton, N. C., was purchased at receivers' sale by J. L. Lineberger, and the old corporation dissolved.

Marion (N. C.) Mfg. Co., officials, announce that work has begun on the installation of a sewerage system and waterworks for the homes of the mill village. Around $100,000 will be expended on the project, officials state. A total of 185 houses will be provided with these modern improvements.

Carolina Cotton & Woolen Mills, Inc., Spray, N. C., have recently installed Breton Minerol Process in their Rhode Island mill, which was supplied by Borne-Scrymser Co., New York.

Character Products Co., Inc., Salisbury, N. C., manufacturer of shirtings and dress goods, has transferred the plant to the building formerly used by the Wallace-Wilson Hosiery Co., while the offices will be maintained in the new Rouzer Building. H. A. Rouzer and C. H. Deal, of Salisbury, have acquired the interests of Fred Van Wagene, of Salisbury, and R. A. Schoolfield, chairman of the board of the Riverside & Dan River Cotton Mills, Inc., Danville, Va. C. H. Deal remains as president.

Amazon Cotton Mills, Thomasville, N. C., have recently installed Breton Mineral Process. The equipment and Breton Minerol E were supplied by Borne-Scrymser Co., New York.

Waldensian Weavers, Inc., Valdese, N. C., are building a new addition which when completed will house the finishing and dyeing departments of the plant.

Rosanna Mills, Inc., Chester, Pa. John S. P. Carpenter and David Bachman have been appointed receivers for this company in bond of $75,000. Authority has been given to continue production at the plant for the next 90 days. Assets are stated to be $750,000, and liabilities, $286,855.

Charles J. Webb & Sons Co., Inc., Philadelphia, Pa. Clarence E. Wunder, architect, has completed plans and specifications for the new structure to be erected for the cotton goods department of this concern, where it will also handle rubberized fabrics, on a plot recently acquired on the south side of Erie Ave., west of D St. It will be two stories and basement, brick, steel and concrete, on a site 185 x 101 ft. It will represent an investment of $250,000. Among those who have been invited to submit bids are: Paul Brosz, Fred A. Havens Co., J. S. Rogers Co., Ketcham & McQuade and Henry P. Schneider.

Charles Mills Co., Red Springs, S. C., has installed three Universal quillers, two Benjamin Eastwood skein winders, and one Saco-Lowell rayon slasher. The recent addition of the rayon department is specializing in shirting and dress goods.

Neely-Travora Mills, Inc., York, S. C., began operating Dec. 9 on a four-day and four-night schedule.

Texas Gauze Mills, New Braunfels, Texas, have been operating at full capacity since Nov. 1, it was announced by Dr. Bergfel, who stated that the annual output of the plant will exceed 1,000,000 yds. of gauze.

Wool

Eureka (Calif.) Woolen Mills, Inc., are arranging for an expansion program, to include installation of additional equipment for increased capacity. It is proposed to arrange for a sale of preferred stock at an early date, to provide funds for the development.

Strong-Hewat Co., with mills at Briggsville and Hinsdale, Mass., is one of four woolen companies for which a merger is being negotiated. The combination is estimated to have a valuation of $5,000,000.

Mann & Stevens Woolen Co., East Brookfield, Mass., has shut down until some time in January.

Pontoosuc Mills, Inc., Pittsfield, Mass., will close down as soon as the present stock is run out, which will be about the early part of January. The Bachmann Corp. bought the property last year for approximately $300,000.

Daniels Mfg. Co., East Brookfield, Mass., shut down indefinitely on Dec. 10.

Jefferson (Mass.) Mfg. Co., resumed operation on Dec 16 on a four-day-a-week schedule, after a few days shut down for repairs.

Chase Mills of the American Woolen Co., Webster, Mass., shut down indefinitely on Dec. 12 having completed running out stock on hand. A whistle, heard in every section of the town, morning, noon and night, for 70 years, blew its final blast at 5 p.m., when operations ceased.

M. J. Whittall Associates, Inc., Worcester, Mass., will soon begin production in their new two-story mill extension, 60 x 470 ft., now practically completed, designed for the manufacture of seamless rugs.

Mohawk Carpet Mills, Amsterdam, N. Y., are increasing operations by taking on new help for night work.

***A. & M. Karagheusian, Inc.,** Freehold, N. J., have curtailed operations at their local rug mill until further notice. All overtime, except in connection with about half of the wide looms, has been discontinued. Several departments will be maintained on a 48-hr. weekly period for the present.

Leaksville Woolen Mills, Charlotte, N. C., have reopened after being closed for several weeks, according to John L. Moorehead, president.

Basch & Greenfield Corp., Newark, N. J., on Dec. 5, named Benjamin Newman. of Newark, as receiver of the corporation, and of all assets and property wherever located.

Archibald Holmes & Sons, Philadelphia, Pa., are having plans drawn for a new addition to their mill, on site at K St. and Erie Ave. It is expected to ask bids on general contract at an early date. M. Ward Easby, 1505 Race St., Philadelphia, is architect.

Brighton Worsted Co., Inc., Philadelphia, Pa. Chas. F. Sloan, president of this concern, manufacturers of men's wear fabrics, denied that the firm was for sale or that they would discontinue business. Instead, he said, they are developing new lines and formulating new policies. Chas. W. Hansford is in charge of designing, Mark Ballinger is sales manager; Harry C. Sundgard is the superintendent, taking the position formerly occupied by John G. Stewart.

Leaksville Woolen Mills, Inc., of Danville, Va., have been issued a supplemental certificate of incorporation reducing the maximum authorized common capital stock from 100,000 shares without par value to 30,000 shares without par value. Harris, Harvey and Brown, of Danville, are attorneys for the mills.

*Indicates previous mention of project.

*Rockbridge Co., Goshen, Va., expects to complete building operations on the textile plant this week. This is the third unit constructed by Allen J. Saville, Inc., of Richmond, this year and a fourth is yet to be built, but the contract has not been awarded. Units were built first at Augusta Springs and Craigsville, Va. Only one has been put into production, but machinery is being installed rapidly in the other. As soon as the third unit is turned over, the company will start installing machinery. The three units will be put in operation before the fourth is started. The Rockbridge Co. is affiliated with the **Harrisville (R. I.) Woolen Mills.** Austin T. Levy is president of both companies. The mills in Virginia are an expansion of activities and will not cause operations in New England to be curtailed. Each of the units consists of a main mill building of fireproof, brick construction, approximately 100x300 ft. in size. There are power plants, water works and office buildings connected with each plant. Each unit will employ about 200 workers at first. This force can be expanded as need arises. The total cost of the project, including machinery, will be in excess of $1,000,000.

National Woolen Mills, Kirkland, Wash., are constructing a basement under the plant to serve as a storage room.

Ayers, Ltd., Lachute Mills, Que., Can., are having a one-story and basement, steel and reinforced concrete addition, 300x61 ft. made to the cotton dryers felt weaving shed.

Knit

Jacobs & Spivey Hosiery Mill, Bridgeport, Ala., has installed 16 new machines during the last week and has ordered 60 more machines for immediate delivery, all of them designed to make full-fashioned hosiery. The management of the plant has also ordered a number of ribbers, loopers and knitting machines and plans are being made for other immediate expansions.

Severin Mfg. Co., Inc., Torrington, Conn., has leased a floor in the Canfield Inn Building, at Canaan, Conn., and intends to install 25 machines immediately for the manufacture of seamless hosiery.

Richmond Hosiery Mills, Inc., Rossville, Ga., will begin superstructure at once for a new addition to provide for large increase in present output of full-fashioned hosiery, reported to cost upward of $250,000, with machinery.

McCallum Hosiery Co., Northampton, Mass., will enlarge its plant for throwing silk on Summer St., Holyoke, Jan. 1, by taking over the remaining space on the ground floor and installing additional winding and spinning machinery.

Taubel Knitting Mills, Inc., Riverside, N. J., recently organized by George and Charles H. Taubel, formerly identified with the local mill of Henry Taubel & Son, Inc., have opened a new knitting mill on Pavilion Ave., to specialize in the production of golf hose and other kindred knitted goods. An initial working force of about 35 persons is employed, to be increased to more than 100 operatives in the near future. All new machinery has been provided. George Taubel is president of the new company, Charles H. Taubel, treasurer, and Daniel Lichtenthal, Riverside, secretary. The former local Taubel mills are now the property of the Florence Knitting Co. The new company is capitalized at 500 shares of stock, no par value.

Pyramid Hosiery Co., Rockaway, N. J., has placed an order with Robert Reiner, Inc., Weehawken, N. J., for a battery of high-speed full-fashioned knitting machines, and is understood to be placing contracts for auxiliary equipment required in connection with mill expansion program.

Atlantic Silk Hosiery Co., Paterson, N. J., has had plans prepared by J. M. Robertson, consulting engineer, Montreal, for the erection of a $1,000,000 silk mill at Sherbrooke, Que., Can. It is expected that work on the new plant will be commenced early in the spring. Details as to size, specifications, etc., are not as yet available.

Wiscasset Mills Co., Albemarle, N. C., is completing an extension which will house 60 additional full-fashioned hosiery machines. The company is now operating 81 full-fashioned machines.

Sterling Hosiery Mills, Inc., of Forest City, N. C., are to be merged with the plant at Spindale, N. C., according to official announcement. Work of moving machinery from the Forest City mill will begin early next year. It will require several months to move and set up the machinery for operations.

Elliott Knitting Mill, Hickory, N. C., will install eight full-fashioned machines in the new plant and additional machines will be installed later.

Ridgeview Hosiery Mill Co., Newton, N. C., has enlarged the plant at a cost of $125,000 and installed eight full-fashioned machines this year.

Philadelphia, Pa. More than 90% of the local silk hosiery mills are said to be running on a maximum production schedule with full working forces, to be continued until after the holiday period, at least.

Fairplay Knitting Mills, Philadelphia, Pa., will begin manufacturing operations within a few days in their new plant at 3747 Ridge Ave., where they will occupy a two-story brick building giving them 25,000 sq.ft. of space in which latest equipment for manufacture of sweaters is being installed. The offices of the concern have been temporarily located at Delaware Ave., & Brown Sts., preparatory to moving into the new building.

Glen Knitting Co., Philadelphia, Pa. Two stockholders of this concern, formerly located at 20th & Clearfield Sts., which was sold this year to Harry West and later transferred by him to the United States Silk Hosiery Mills, of which he is the president, have filed suit in equity, averring that the transaction was result of a conspiracy between the receiver E. Boyd Weitzel, deceased and Mr. West, asking that the property be restored to stockholders and the sale be declared void.

Cadet Knitting Co., Philadelphia, Pa., manufacturer of full-fashioned hosiery, will shortly begin the installation of 48 gauge machines and plans to have several of this gauge in operation in February.

***Trenton (Tenn.) Mills, Inc.,** have approved plans for a new one-story and basement mill, 125x300 ft., to replace their plant recently destroyed by fire. The new unit will be of brick and steel, or concrete and steel type, and will provide facilities for the installation of about 12,000 spindles. It is reported to cost in excess of $200,000, with equipment.

Silk

Belding-Heminway Co. will close its Watertown, Conn., plant Jan. 15. The Putnam plant will continue on its present schedule. Rayon production has cut into the silk requirements to cause the temporary curtailment.

Berliner Silk Co., Paterson, N. J., has been formed with a capital of $25,000, to take over and succeed to mill and business of the Philip Berliner Co., 19 Spruce St. The incorporators are Louis, Barnet and Bessie Berliner, all of Paterson.

Vacca Bros. Silk Throwing Co., Paterson, N. J., has been chartered with a capital of $125,000, to take over and succeed to the mill and business of the **Vacca Bros. Throwing Co.,** 300 Preakness Ave. The principal incorporators are Daniel, Michael and Mary Vacca.

Amalgamated Silk Corp., Kutztown, Pa., which closed several weeks ago, may reopen in the near future, when it is hoped to run the plant on full time. The mill employed from 100 to 150 people at various times.

Albemarle Weaving Co., Charlottesville, Va., has under consideration plans for expansion which will be worked out in the near future. The buildings of the plant, located at Ware Street, were erected in the spring of 1927, and operations were begun in June of that year.

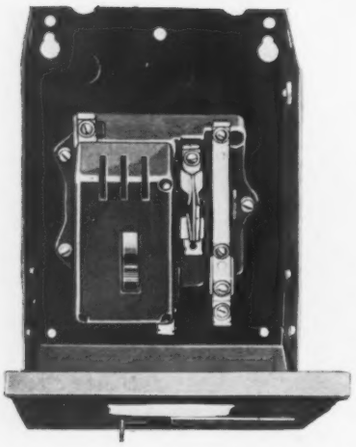
Finishing

Hillside Dyeing & Finishing Co., North Bergen, N. J., is building a dye house, totaling about 5,000 sq.ft. of space, at the Pels Industrial Building site, where space of about 25,000 sq.ft., was recently leased for a new plant unit. The dye house will be pushed for early completion for installation of equipment.

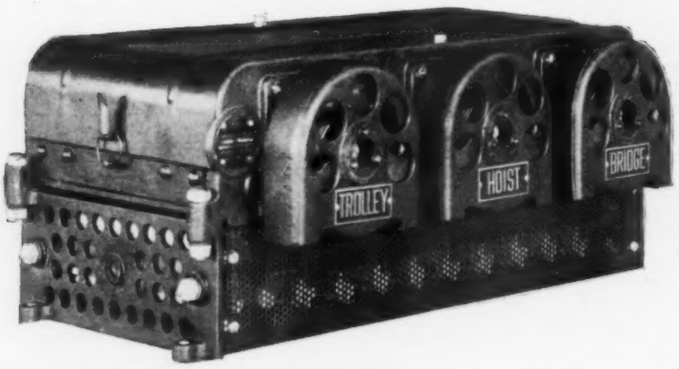
Lanza Piece Dye Works, Inc., Paterson, N. J., will proceed with erection of superstructure for a new one-story mill, 75x190 ft., at 335-39 Boulevard, reported to cost about $40,000, with equipment. A building permit has been issued. The plant will replace a mill on Bridge St., recently destroyed by fire with substantial loss.

*Indicates previous mention of project.

New Machinery



Open View of Square D Meter Service Breaker



G. E. Self-Container Controller for Low Head Cranes

Glyptal Lacquers

A NEW TYPE of protective coating, called Glyptal lacquers, has been announced by the General Electric Co., Schenectady, N. Y. These Glyptal lacquers are said to be suitable for covering any surface, including those that are ordinarily difficult to coat — such as aluminum and galvanized iron. They are resistant to mineral oils, weak acids and alkalies, and temperatures in excess of 600° F. The base of these lacquers is a flexible form of Glyptal, an alkyd resin manufactured from phthalic anhydride and glycerin. Up to the present time the lacquers have been produced in the following colors: aluminum, blue, brown, green, gray, black, and red.

Glyptal lacquers may be applied by spraying, brushing, or dipping. They air-dry in one-half hour, may be handled in two hours, and set hard in eight to ten hours. The drying time is accelerated by heat. Baking, when convenient, improves the coatings and somewhat prolongs their protective properties. The finish produced is smooth, easily cleaned, and resistant to abrasion.

Some of the uses for these lacquers recommended by the manufacturers are as follows: The aluminum Glyptal lacquers is particularly resistant to heat, and for that reason is useful for coating metal parts that are exposed to high temperatures. The red lacquers find application in power plants, oil refineries, gas works, and other places where a sealing paint to resist oil, gas, moisture, and mild acids is required. The other colors are intended primarily for finishing purposes or coatings for manufactured articles. It is stated that where fine finishes are desired on rough metallic surfaces, the use of Glyptal lacquers does not need priming and sizing.

Controller for Cranes

THE General Electric Co. announces a new self-contained, triple-drum controller with a resistor mounted on the back. This controller is designed for the floor operation of the three motions of small, low-head cranes. The general construction is similar to that of the standard General Electric line, with rope wheel having spring return, and interchangeable vertical or horizontal handle. The horizontal handle arrangement is provided in case it is desired to install the controller in a crane cab for the usual method of manual operation. In such an installation the resistor can be separated from the drum switches; this separation is necessary, if all three motors are rated the full 10 hp. of the controllers.

Uniformity Machine

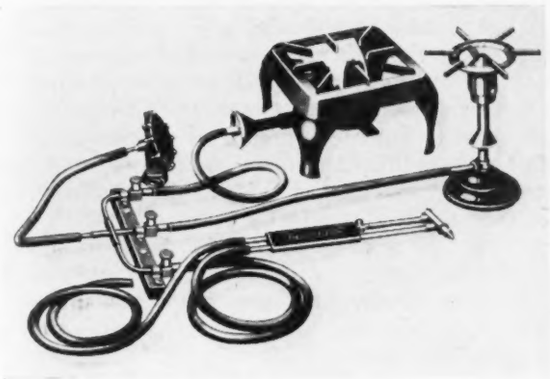
A MACHINE developed by the Schwarzenbach-Huber Laboratories, 4th Ave. and 32d St., New York City, was described by A. Coradi at the recent International Raw Silk Technical Conference. The apparatus is designed to determine the evenness of raw silk, based upon the breaking strength of single silk threads. The degree of uniformity is denoted by the variations in the breaking strength.

The apparatus for the test consists of a specially designed machine to enable ten continuous threads to be broken simultaneously at intervals of 15 yd. and a means to record these breaks successively on a chart, so that by connecting the breaking points a graph can be obtained which will clearly indicate the evenness variations. The principal working parts of the machine are a take-up roller which winds the thread from ten bobbins, an arm with ten fingers which pick up the threads from the take-up roller, and a carriage which moves forward and backward and is equipped with ten clips to receive the thread from the fingers. With the forward motion of the carriage the thread is fed into ten individual carriages. These separate carriages are placed on rollers and have jaws on one end to receive the thread. The opposite end is fastened to a coil spring.

Upon placing the threads in the jaws of these separate carriages, the main carriage moves backward and the thread is allowed to slip through its clips for a distance of 50 cm. at which point the clips close. A tension is then exerted on the threads by the large carriage continuing its backward stroke. The small carriages are pulled forward against their spring resistance until the thread snaps. The breaking points are indicated separately by needles which move in conjunction with each small carriage. Upon completion of the break, 15 more yards are wound and the cycle is repeated.

The record for the test shows the evenness percentage of each bobbin and the average percentage of the ten

and Processes



Acetylene Burner and Hot Plate for Laboratory Work

bobbins. The computation is made from the break chart. which is laid out in spaces of 100%, 85%, 70%, 40%, and a penalty space of 100%. The percentage accorded each space has been based on the rule that a breaking strength of four times the denier size equals 100%. However, a deviation of 1½ denier both ways from the average size has been considered 100%; that is to say, a 13/15 denier thread should break at 56 grams. If on the uniformity chart the thread has broken between 50 and 62 grams, it is accorded 100%. The other percentages are calculated in the same manner, an effort being made in each instance to have the figure as mathematically correct as possible.

The percentage is figured for each group of 80 breaks by according to each break the credit assigned to the particular space in which the break occurred. The sum of these credits divided by the total breaks gives the average percentage. The ten individual averages are then averaged to obtain the final average for the bale.

Meter Service Breaker

A NEW PRODUCT, the Square D Meter Service Breaker, has been announced by the Square D Co., Detroit, Mich. Absence of fuses in the service breaker does away with the problems of sealed main fuses, accessible fuses, interlocking doors, and other undesirable features of service switches. Its use prevents blown fuses and eliminates service calls for blow-outs.

The device is of simple construction, offering nothing to puzzle or mislead the wireman. Since there is no need to have access to the circuit-breaking mechanism, it is sealed inside an insulating cover, to protect it against tampering and to keep out dirt.

The service breaker is designed to withstand temporary overloads, but opens the line before any damage can be done and does so quickly enough to protect rubber-covered wire. It is stated that the device is safer than fuses and opens the circuit without flame or excessive noise. The front operating handle is insulated so as to prevent the possibility of a shock to the operator. This handle indicates the "on," "off," and "tripped" positions, and can be locked or sealed in the "off" position. It is toggle-operated and can be reset as easily as an ordinary toggle switch can be operated.

The box of the service breaker is of the usual size.

Applying Glyptal Lacquer by Spraying

Arrangement is made for ordinary meter trims and for banking troughs. There is a special bolt for locking the meter trims in place.

Acetylene Burner

AN ACETYLENE burner for laboratory work has been announced recently by the Prest-O-Lite Co., New York. A complete laboratory installation consists of a small tank of acetylene, a hot plate, a bunsen burner, an acetylene-and-air torch with air control, a reducing valve, a three-way branch valve, and the necessary red gum tubing. Acetylene is said to have many advantages over liquids or other gas fuels. It not only produces a higher flame temperature than coal gas or natural gas, but forms a flame that can be perfectly controlled. This flame is non-oxidizing and non-carbonizing as well.

A special type of torch has been developed for test work and uses compressed air in addition to acetylene. The flame may be changed from the brush type to an intense needle point by adjusting the air supply. This is accomplished by a simple twist of the adjusting screw. The brush, or bunsen flame, has a temperature of approximately 2,800° F. and the needle point flame produces a temperature of approximately 3,300° F., making it suitable for work requiring high temperatures. A wide latitude of temperature control is possible by adjustment of the gas pressure. The hot plate and bunsen burner recommend themselves by their convenience, cleanliness and intensity of the flame. They save time and keep instruments and utensils free from soot and smoke.

"Recent Textile Patents" will be found on page 80

Questions and Answers

We undertake to answer, free of charge, to the best of our ability, questions pertaining to textile matters received from any regular subscriber to TEXTILE WORLD.

Inquiries should give the fullest information and data possible. In the case of damage to material, a sample should be sent. We do not undertake routine analysis of woven or knitted fabric construction, or investigation involving unusual expense.

All inquiries must be accompanied by the name of the person inquiring, not for publication, but as evidence of good faith. The identity of those seeking information on technical subjects will not be disclosed.

Letters expressing opinions or voicing criticism will be signed by the correspondent's name unless the letter itself contains a request that the name be withheld.—EDITOR.

Unsatisfactory Carding of Cotton And Wool Blend

Technical Editor:

Please find a sample of stock enclosed. As you notice, the drawing of the first breaker is all pilled, and as it goes through the rest of the card it does not blend in. Furthermore, the stock seems out in roping individually. Can you suggest a remedy? (7028)

The general appearance of the sample of stock indicates very poor carding, caused by the cards being dull and the fancies not working properly. This condition allows the stock to roll or pill up, instead of coming through smooth and evenly carded out as it should be.

It seems advisable to speed up the doffers on the first and second breakers, so that the stock will pass through the card more quickly and the cylinder will not be allowed to overload. We also suggest that you set the fancies and run them at the proper speed that will keep the cylinders clear to prevent the stock from pilling. Set the feed rolls on the finisher close to hold the stock, and speed up the leader so that it will deliver evenly to the tumbler. Put the ring doffers up to 12 or 14 turns and rub the roping harder; this will improve the spinning quality.

◆

Finishing Silk Sewing Thread

Technical Editor:

We have been experimenting for some time on waxed hand sewing made of pure-silk thread, and we must say that the results obtained so far have been very unsatisfactory.

We would be greatly obliged if you could give us any particulars in reference to applying the finish to the thread as actually done by some manufacturers. Some concerns, we hear, are not using wax but a solution of some kind that answers the same purpose. (7006)

Sewings are made from Japan stock and are made to run 650 to 675 yd. in the gum with a test strength of 7¾ to 8½ lb. in the gum. Waxing makes the thread much stronger. Fifteen threads of a 14/16-denier silk are spun left 17 turns, doubled two cord, then twisted right 14½ turns.

After the gum has been removed and dyed it is ready to be waxed. This is done by putting on 20% of wax, consisting of 10% of paraffin wax and 10% of bees wax. This is melted in a pan which is kept hot so that the wax will be kept thin and will stick on the thread when it passes through. The thread passes over a roller partly immersed in the wax, and continues to a hot plate, where a board lies over the threads. This board has a weight on it to limit the amount of wax applied. The weight can be adjusted to allow any desired amount, as determined by examination of the thread after it has passed onto the spool ready for reeling.

It is reeled on a 44-in. reel. The skeins must not be made too thick, else they will pull out when in the folders. They must be in streight skeins without diamonds, so that they will pull out easily one at a time after the skeins have been cut.

The thread is treated on steam stretchers, but must be subjected to no more than steaming—stretching not being permissible. If stretched once after the wax has been put on, the wax will be broken and the thread will be very hard to sew with. Care should be taken to see that it is laid flat in the folders when ready for use and that it will slide out very easily rather than all together.

◆

Marking Seamless Hose For Mock Seam

Technical Editor:

Please advise us if there is any way in which we can mock seam our seamless hosiery without putting a marker through the stocking as a guide for the operator to follow. We dislike to use the marker because it leaves a streak through the toe and foot of the stocking. At the same time, it is necessary to run this seam absolutely straight down the back of the stocking and between the fashion marks. If you know of any method or methods that can be used to get a straight seam without using a marker, we would appreciate hearing from you. (7010)

We know of no special way of guiding the seamer for this work. We believe that any of the machine builders can supply an attachment for their machines which will put a mark down the back of the leg and stop where you desire. This is in the form of a drop-stitch attachment in which but one drop stitch is used at the point where the marker is desired. The pattern control will cause this to work when desired and will withdraw the action when not desired. This involves special attachments.

◆

"End to End," "Two and Two," and "Two by Two"

Technical Editor:

Will you be good enough to outline what is meant by "end to end" and "two by two" weaving, in the manufacture of shirtings? (7024)

The correct term, as used in the shirting trade, is "end and end." The term "two and two" is also used when the ends have to be drawn two color and two white.

In the great majority of cases "end and end" means

that one end of gray and one end of color are drawn next to each other in the warp, and this manner of drawing is continued until the whole warp is drawn. The term "end and end" is also applied to a type of shirting now being made in which the "end and end" layout means one end of rayon and one end of cotton warp. This type of shirting is termed an "end and end" rep.

The term "two by two" is often applied to an all-gray broadcloth fabric that is made up of two-ply warp and two-ply filling. This term is used to distinguish the better grade of two-ply broadcloth from the single-warp-and-filling broadcloth.

Very often the term "two by one" is used to designate an all-gray broadcloth made with two-ply warp and single filling.

◆

Removing Rust and Brass Stains

Technical Editor:

I am interested in obtaining a product for removing rust from woolen goods. Could you also tell me of anything that will remove brass stains from white woolen goods? (7008)

Iron rust stains are best removed by saturating them with a liquid made by dissolving an excess of oxalic acid in 56% acetic acid; that is, enough oxalic acid is used to make a saturated solution, leaving some crystals still undissolved. The removal of the rust is only a question of time and the application should be repeated until the material is no longer discolored. It should then be washed out with warm water. If the rust is accompanied with grease, the grease should first be extracted with a solvent and dried; otherwise the acid solution will not be able to act upon the rust.

Brass stains are seldom simple brass but are mixed with lubricants, graphite, and iron. The procedure would be to remove the grease first with solvent, then the iron is directed above, and finally the brass or copper by repeated treatments with strong ammonia. Graphite remaining is proof against all chemicals, but sometimes may be removed by rubbing and brushing with fullers earth and water, which dislodges it mechanically.

◆

Streak in Dyed Hosiery

Technical Editor:

We are enclosing a hose showing white streaks. These streaks occur every now and again. They occur occasionally in stripped or re-dyed hose, but very seldom in a regular batch.

It is impossible to remove these streaks. The hose are boiled-off with boil-off oil, and dyed with 2% of Baco Penet and 15% of glauber salt, boiling 30 to 40 min., cooling to shade.

Can you tell what will remove these streaks and the cause for this condition? (6988)

We have examined the sample of half hose submitted showing white streaks and believe them to have been caused by fabric coming in contact with rough surfaces on dyeing machines for too long a time. We are of the opinion that goods have been dyed loosely in an overloaded dyeing machine. Where nets are not used for bagging the goods, this trouble frequently develops in a rotary dyeing machine, and is more liable to happen in a paddle-wheel type machine.

By examining the streaks through an ordinary magnifying glass, the broken and felted fibers are greatly in evidence, and the so-called white streaks are caused by a different reflection of light rays along the lines of the napped surface. A simple method of fully explaining the trouble is to take a small piece of glass and crush it under a hammer. It will be found that the crushed particles are no longer transparent, but appear white.

To correct the trouble we would suggest dyeing goods in nets and, if dyed open in machines, not overloading the machine. The streaks on the finished goods can be overcome to some extent by singeing and refinishing, but we know of no easy way of entirely eliminating them.

THOUSANDS of inquiries are handled annually by the Technical Editors. In order that as many readers as possible may benefit from this service, we select problems of general interest for publication each week.

◆

Yellow Stain on Yarn

Technical Editor:

I am sending you a mercerized skein showing a yellow stain. The lot represented by the enclosed sample was boiled in an open kier and mercerized. Upon mercerizing the yarn, the stain became a brighter yellow; when treated in an acid bath the stain turned pink; and after washing and neutralizing it again turned yellow. This yarn came by boat. Do you think it possible that anything could have gotten on the bale in transit? I will appreciate any information you can give me as to the nature of the stain and how to remove it. (7012)

This is evidently the familiar aniline stain, which is pink when the goods are in an acid condition and yellow when they are alkaline. In a mill it may appear where goods are stored in the vicinity of an aniline-black ager, or where they can be reached by the vapors from aniline oil or aniline salt in storage.

It is doubtful whether the complete story of the formation of such a stain has ever been written. It probably is due to oxidation of the vapors that come in contact with the cotton, with the consequent formation of a true dyestuff that is firmly attached to the fibers, but which can change its color, as the inquirer has observed.

Since this stain has survived mercerizing, it probably cannot be readily removed without stripping or bleaching. The yarn is found by test to bleach readily, and to strip, though not as easily, with the hydrosulphite type of stripper. The latter leaves a yellow color on the whole skein.

This type of stain has also been known to develop in the cotton tops of rubber shoes, or in the vicinity of rubber goods where aniline (or possibly something similar) has been used in rubber cements.

The bale in question may have been near aniline, rubber goods, or some other source of aniline, while in storage or in transit. It would be interesting to know whether the covering of the bale was similarly yellowed, and whether the stains were originally on the outside skeins or scattered all through the bale. If the stains were scattered through the bale, it would indicate that they were on the yarn before it was packed for shipment.

Durene

REG. U.S. PAT. OFF.

NATURAL, BLEACHED AND COLORED

YARNS

MAIN OFFICE

123 SOUTH BROAD STREET

PHILADELPHIA

Manning St.
HIGH POINT, N. C.

432 Fourth Ave.
NEW YORK

418 Franklin St.
READING, PA.

323 So. Franklin St.
CHICAGO, ILL.

James Building
CHATTANOOGA, TENN.

52 Chauncy St.
BOSTON, MASS.

HAMILTON, CANADA

LOS ANGELES

MILLS

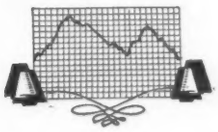
CHESTER, PA.

BELMONT, N. C.

ABERFOYLE MANUFACTURING COMPANY

Representatives in All the Principal Countries of the World

TEXTILE WORLD ANALYST



Business Recession Unlikely to Pass Quickly

A Cyclical Turn, Says Dr. Haney, but There are Mitigating Factors

SUMMARY

The trend of business is broadly downward. The three fundamental conditions are: (1) Lower consumer demand schedules, (2) Over-production, and (3) Strained bank credit. Textile raw materials are nearly normal in price (with silk on a new and lower basis). Low replacement margins in the textile industries, in spite of curtailment, show weak markets for finished products.

●

The analysis and forecast by Dr. Lewis H. Haney, Director, New York University, Business Research Bureau, which regularly appears on this page, considers various branches of the textile industry from week to week. The conclusions reached in the Analyst are mostly forecasts and generally apply to a time two or three months ahead. The Analyst is based on statistical data and does not reflect temporary trade sentiment.

NO one now denies that the general trend of business is downward. It would hardly be possible to do so in view of the fact that car loadings have declined so considerably, and the further fact that there is a clearly downward trend in factory employment that became more pronounced in November. Steel production, too, has fallen very sharply, and this reflects continued recession in building activity and automobile production. The November copper statistics show an unusually drastic reduction in domestic shipments.

To indicate how general and fundamental the recession is, we also note that November department store sales, while reported to be 0.7% above a year ago, showed a considerable decline from September and October, and were distinctly below normal.

Are "Fundamentals Sound"?—The only difference of opinion now concerns how far the decline will go and how long it will last. Some persons who foresaw no recession and denied the existence of recession at the beginning, are now repeating the old saw to the effect that "fundamentals are sound." Such persons announce that they look for a little "quietness" in business, to be followed by a boom.

The only wise procedure is to confront the facts. If this had been done last summer, both as to business in general and as to the textile business in particular, there would not now be so much mal-adjustment to correct.

The first great fact is that consumer demand schedules have been lowered. We have seen declining commodity prices at the same time that production has been curtailed, which makes it fair to infer that the desires or purchasing power of consumers have been reduced. In fact, consumer purchasing power is actually restricted in several ways. Farmers will receive somewhat less net income this year than last. Unemployment is increasing among factory workers and the trend of payrolls is downward. Losses in the stock market have been wide-spread. And, to cap the climax, it seems probable that a large number of consumers are pretty well sold up on the installment plan.

Over-Production—The second great fact is over-production. This has occurred, it is true, without any excessive expansion of unfilled orders or accumulation of excessive dealer inventories. But it is also true that indexes of production show that the total output of our industries reached a very high level in the middle of 1929, similar to those at the peaks of preceding business cycles (of course, allowing for normal growth). A large measure of over-capacity exists, partly due to the preceding era of cheap money. Stocks of manufactured products in producers' hands average large, and the accumulation of stocks of raw materials is very large.

To make this situation worse, there has been an unparalleled volume of installment selling and an equally unparalleled program to encourage the holding of agricultural products by the producers.

One aspect of the over-production situation is found in the generally narrow margins of profit earned in manufacturing. This partly reflects low prices and partly the high fixed charges that attend over-capacity in plant and equipment. This condition has been maintained thus far because production has been so great in quantity that (1) costs per unit of output have been low, and (2) small profit margins have been sufficient to give large total profits. But now that the volume of "mass production" is declining, there is danger that unit costs will increase and wipe out the narrow margins. At least, total profits are likely to be very unfavorably affected.

The third great fact is that bank credit is strained. The process of liquidation is only partly completed. "Brokers' loans" have been pretty thoroughly liquidated, when considered as a percentage of total loans, but bank credit has not been liquidated and total bank loans (both collateral and commercial) are still very high. The situation as to bank credit is not being helped by the large gold exports that are now occurring.

These facts make it likely that recession will be rather large and prolonged.

It may be said that, with some differences in detail and with the stock market feature exaggerated, business is "performing as usual" in the course of

AMERICAN
YARN & PROCESSING COMPANY

Main Office and Mills

Mount Holly, N. C.

MERCERIZED YARNS

High Grade Combed and Carded
All Counts and Put-ups

Sales Representatives
For Northern States and Canada

WATERMAN, CURRIER & CO., INC.
Boston, New York, Philadelphia
Chicago, Reading, Pa., Utica, N. Y.

H. B. KETCHUM
Mgr. Exporting Dept.
Mt. Holly, N. C.

H. B. ROBIE
93 Worth St.
New York

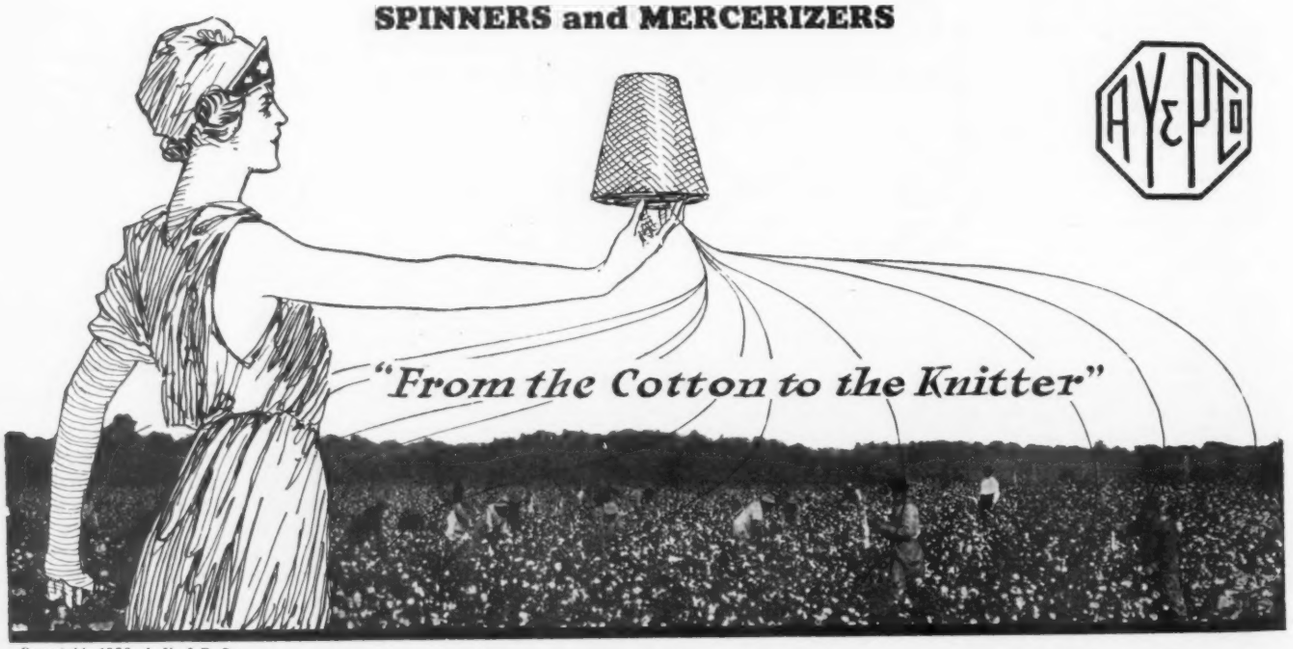
For Southern Territory

LOUISVILLE TEXTILE CO., INC.
Louisville, Ky.

TOM MOORE
502-3 Provident Bldg.
Chattanooga, Tenn.

E. J. HOLBROOK
High Point, N. C.

SPINNERS and MERCERIZERS



Copyright, 1928, A. Y. & P. Co.

business cycles. Business activity fell somewhat less below normal in 1927 than is usual at the bottom of a cycle, but it increased fully as much above normal in 1929 as is usual. Money rates increased even more than usual. There have been the usual maladjustments, notably the excessive output of automobiles, airplanes, and radios.

Yet the situation is not without mitigating factors. Thus far, there has been an absence of the disturbing bank failures that have attended some recessions. The inventory position of merchants is generally satisfactory. Industrial corporations are mostly in a strong financial position. We have not experienced an absolute scarcity of credit, nor has reserve bank credit been exhausted as it was in 1920. It seems possible, too, that an unusually large part of the stock market recession has occurred all at once. Probably the worst part of the recession in building is already over. To some extent, we may hope that the programs for construction may moderate the decline.

Textile Prices Near Normal—As to the textile situation, we can say that the prices of textile raw materials are now normal or even a little sub-normal. Cotton, after a period of nearly eight years, during which it has been mostly above normal in relation to the general average of commodity prices, is nearly back to normal. Wool is a little below normal and relatively stable in the sense that it is moving nearly parallel to the general average. Since 1926, silk has been so affected by the substitution of rayon and the increase in Japanese production, that it has fallen to about a 20% lower level.

We note that on the basis of the five years beginning with 1921, all the textile materials are low in comparison with the general price level. If, however, we include representative pre-war years, this can be said only of silk. It follows that the post-war liquidation of textile prices has been more severe than that of commodity prices in general, particularly since 1923-1924.

Judged by the standard of a period which includes representative pre-war and post-war years, cotton is relatively the highest of the textile materials.

Low Replacement Margins—The replacement margins of textile manufacturers are still showing that the decline in prices of textile materials is at least partly due to pressure on the markets for finished textile products. Their low level continues in spite of curtailed production. Cotton manufacturers' replacement margins have declined of late and are below a year ago. Wool manufacturers' margins have increased as usual at this season and are somewhat above a year ago. In neither case are sales of finished goods satisfactory.

The common stocks of both cotton and wool manufacturers continued to decline in November, and have shown but little recovery thus far in December.

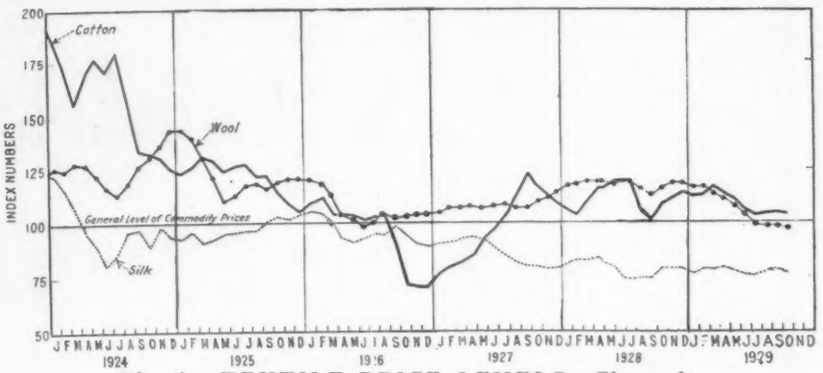


Fig. 1. TEXTILE PRICE LEVELS—Chart shows how chief textile fibers compare (1) with the general level of commodity prices and (2) with each other. The 100 line = average of all commodity prices, and fibers are normally priced when near the general level. The several fiber price curves are so placed that normally they should be close together.

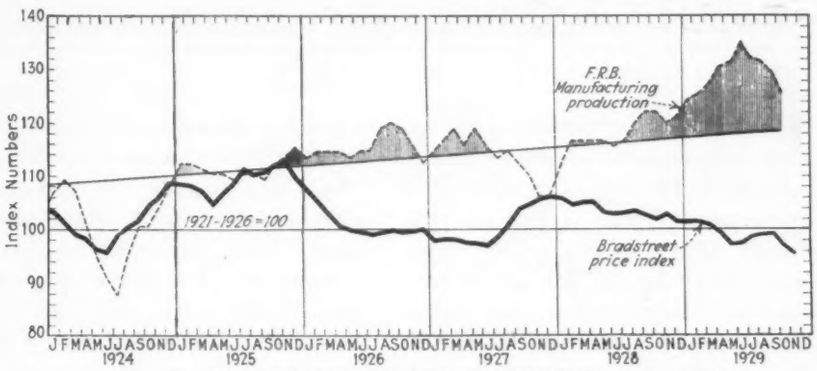


Fig. 2. PRODUCTION AND PRICES—Industrial Production—Average Daily, Adjusted for Seasonal Variation, Federal Reserve Board; Commodity Price Index—End of Month, Bradstreet's Journal. Average 1921-1926 = 100 for both indexes.

◆

Textile Shares in Downward Trend

Loring Group Sells Note Issue and Nashua Reports Increased Earnings

BOSTON, Dec. 18.

THE majority of both listed and unlisted textile shares have continued their downward trend, this being partially in sympathy with the general trend of stocks and more largely due to loss-taking sales for tax purposes that are usually a feature of this month. While current business is rather more than normally slow in nearly all branches of the industry, and while there is little likelihood of a marked increase in demand, sales and profits in the near future, there would appear to be no justification for permanently lower values of most textile stocks, for few of them participated in the advance prior to the Wall Street slump and since then have fully discounted the most pessimistic view of the outlook.

The general trend on the New York and local exchange is well illustrated by the following textile stocks: American Woolen preferred off 1⅝ points for the week at 21⅜; American Woolen common up ⅜ points at 9; Amoskeag off 2 points at 12; Pacific off 2 points at 20 and Bigelow-Sanford common off 1¼ points at 82. With few exceptions the prices registered by the large volume of textile shares sold at today's auctions have little or no significance, as practically all represented loss-taking sales for tax purposes with only nominal or

A Hobby or a *Hobble?*

If you're in business for profit, why spend your time winding yarn?

EVER stop to think why rayon skeins seem so much like a bargain? Or why the manufacturer put it up to you to oil and wind? If it's so cheap and easy, why didn't he do it himself and save you the trouble, expense and floor space? Certainly he could do it a lot more economically and efficiently than you. A bargain isn't always as good as it looks at first sight.

Do you know how much of your profit, how much of your reputation for quality, leaks out through your winding and oiling department? Can you estimate the amount of yarn wastage, the amount of degrading inevitable with so much handling of the yarn, and all the losses of labor inefficiency and maintenance of machinery and equipment? How much of this loss are your knitting machines having to make up?

The truth is that oiling and winding scientifically, correctly, economically isn't so easy. It took the Du Pont Rayon Company years to learn how to make a good cone. They pioneered in the development of rayon cones. Can you duplicate the work of these scientists? No other rayon producers have been able to wind first quality rayon cones with all the advantages of du Pont cones. No wonder they're glad to sell you skeins at a price and leave the winding and oiling to you. That's good business—for the rayon producer but not for the knitter.

The knitting business is none too simple; why complicate it by taking on a side line? The knitters who are making money and skimming the cream of the market are too busy knitting to bother oiling and winding. Especially when they can buy cones from du Pont that beat anything they could possibly wind. Du Pont Rayon cones are uniformly oiled, wound so that all knots are on the head where they can't cause a break, and contain twice as much yarn as the average bottle bobbin. If you're interested in getting the most out of your knitting machines, du Pont rayon cones make more than enough difference to offset lower prices on rayon skeins.

Get back into the knitting business. Replace your winding equipment with knitting machines. Leave the oiling and winding to an outfit that knows more about it than anyone else. Cut down your hidden losses. Keep your business simple enough to control easily and flexible enough to adjust to the market. And you know exactly what your costs will be and how your fabric will look and wear.

Du Pont Rayon Company, Inc.
2 Park Avenue, New York City.

DUPONT RAYON
REG. U.S. PAT. OFF.

Member Rayon Institute of America, Inc.

temporary change in ownership. Among the exceptions was the sale of 28 shares of Hamilton Woolen at 36, an advance of one point, and another of 10 shares of Brookside at 60, an advance of two points.

A Textile Note Issue.—United Merchants & Manufacturers, Inc., has sold to Kidder, Peabody & Co., Boston bankers, an issue of $5,000,000 of 1 year 6% collateral trust notes, which the latter are offering at $100 par and accrued interest, the proceeds of these notes to be used to liquidate bank loans, complete finishing and manufacturing plants and furnish additional working capital to the corporation's operating companies. President Homer Loring of United Merchants & Manufacturers, Inc., is quoted by the bankers as follows:

United Merchants & Manufacturers, Inc., incorporated under the laws of the State of Delaware in October, 1928, has virtually completed an organization to manufacture, finish and market cotton, rayon and silk textiles. The corporation owns practically all the outstanding common stock of Cohn-Hall-Marx Co. and a substantial interest in The York-Seneca Corp. These established New York converting houses, with national distribution and foreign markets, have a long record of profitable operations and a present annual sales volume of approximately 250,000,000 yards of cotton, rayon and silk products, with a sales value estimated to be more than $30,000,000.

Finishing (bleaching, dyeing and printing) of textile fabrics is a profitable branch of the industry and two modern finishing plants are being completed, one in Fall River, Mass., and the other in South Carolina, near Augusta, Ga. These plants will have an initial capacity of 3,000,000 yards of finished cotton and cotton-rayon cloth weekly, and have been equipped with machinery designed for the most economical operation. This entire production will be needed to take care of the requirements of the converting houses. A rayon and silk finishing plant will be located at Jewett City, Conn., adjoining the organization's principal plant which is manufacturing rayon cloth.

Another rayon weaving plant is being equipped in Fall River. The management has considered it advisable to include in the organization a few carefully selected cotton mills specially designed and equipped to manufacture products handled in large volume by the distributing houses. Accordingly three northern cotton weaving plants have been purchased, one located in New Bedford and two in Fall River. The New Bedford plant has a reputation for fine products not excelled by any mill in this country, and the two Fall River mills have been rebuilt with modern machinery to manufacture fine goods. Three southern weaving plants located in South Carolina, adjacent to the finishing plant, have also been purchased and re-equipped to manufacture goods principally of the finer grade. The finishing and manufacturing plants above mentioned will be owned and operated by subsidiary companies of which the corporation owns all, or substantially all, the capital stock.

Upon completion of this financing the authorized and outstanding capitalization of the corporation will be as follows:

	Authorized	Outstanding
One-Year 6% Collateral Trust Notes (this issue)	$5,000,000	$5,000,000
6% Preferred Stock $100 Par	15,000,000	8,427,100*
$50—6% Preference "A" Stock	3,500,000	3,217,300
Common Stock—No Par (shs.)	750,000	426,246

*Consisting of $4,500,000 6% Cumulative Preferred, and $3,927,100 6% Cumulative Convertible Preferred Stock Series "A."

These $5,000,000 One-Year 6% collateral trust notes will be secured by deposit with the trustee of 5,000 shares of The York-Seneca Corporation 7% prior preference stock, 10,000 shares of Page Manufacturing Company capital stock, and 100,000 shares of Cohn-Hall-Marx Company common stock. On the basis of current earnings and dividend rates, the pledged collateral is conservatively valued at $7,500,000.

The present earnings of the converting houses alone accruing to United Merchants & Manufacturers, Inc., are at the rate of over three times the annual interest requirements on these notes. By April 1, 1930, all branches of the corporation's activities will be on an operating basis, and it is estimated that for the year commencing on that date the earnings accruing to United Merchants & Manufacturers, Inc., will exceed six times the annual interest requirements on these notes.

The outstanding preferred stock, Preference "A" Stock, and common stock of United Merchants & Manufacturers, Inc., which follow these notes, have a present combined market value of over $18,500,000 or 370% of the face value of 6% notes to be outstanding.

Nashua Mfg. Co. Profits.—The Nashua (N. H.) Mfg. Co., in a preliminary report for the year ended October 31 last, shows net profits after all charges of $533,091, which is equal after preferred dividends to $3.86 a share on the 62,000 shares of common outstanding; this compares with a 1928 net of $437,978, which was equal after preferred dividends to $2.19 per share of common, and with a 1927 net of $1,208,610, equal after preferred dividends to $14.43 per share of common. The previous three years had shown the following losses: 1926, $178,226; 1925, $154,852; 1924, $716,010. The company's income account for the last two years compares as follows:

	1929	1928
Sales	$16,070,583	$17,625,081
Net profit	533,091	437,978
Pref. dividends	293,607	302,115
Add to surp.	239,483	135,863

Treasurer Robert Amory reports to stockholders as follows:

"Gross sales were less than in 1928. The quantity sales of merchandise were only slightly less than in 1928, but the unit prices received were lower and only by the strictest economy and increased efficiency of operation was the profit margin retained and even slightly increased from 1928.

"At the present time blanket stocks through the country seem to be very small and from that point of view conditions are good. However, price cutting has been a common practice during the past year.

"Following the regular policy of the company raw cotton in the bale is carried at cost or market, whichever is lower. Finished goods and stock in process inventories have been carried at prices that should be reasonably safe, even if cotton were to decline materially from the current market. In addition it will be noted that a contingent reserve of $95,000 has been set up. In no case have inventories been valued in excess of original cost, replacement cost of values should show a reasonable profit when goods are sold, whichever was lowest on Oct. 31, 1929."

Boston Stock Auctions.—The following sales of textile shares were made at Wednesday's auctions:

Shrs.	Mill	Par	Price	Change
210	Arlington	100	18–17⅞	— ⅛
225	Nashawena	100	20–18½	— 2½
200	Ipswich, pfd.	100	4	— 1
120	Thorndike Co.	100	125 for lot	.....
28	Hamilton Woolen	100	36	+ 1
169	Wamsutta	100	20½	— 2½
312	Pepperell	100	95½–96½	— 6½
543	Waypoyset Mfg. pfd.	100	25,000 for lot	.....
1,086	Waypoyset Mfg. com.			
50	Boston, pfd.	100	2½	— 1½
10	Brookside	100	60	+ 2
18	Davol	100	2⅞	— 6½
25	Arkwright	100	35 for lot	.....
236	Waypoyset, com.			
20	Amoskeag, pfd.	100	68	— 1½
37	Associated Textile	100	36–35	— 1
50	Connecticut, com. A.	100	15c.	—10c.
275	Connecticut, 2nd pfd.	100	50c.	— 1½
1,094	B.B. & R. Knight, pfd.	100	5	— 1½
400	National Fabric, pfd.	100	10	.....
55	Nashua, com.	100	38½	— 3
186	York	100	5½	— 1½
10	Naumkeag	100	90½	— ½
521	Suncook, com.	100	20	— ½
85	Union, com.	100	12	— 3
50	Otis	100	38½	— 3½
100	Connecticut, 1st pfd.	100	10	— 9½
10	Richard Borden	100	3½	— 1
22	Whitman	100	7	— 3
20	Flint	100	26½	—26½
7	Lockwood Co.	100	40	—11½

6,174 Total

Southern Stocks Quiet—The common and preferred issues of southern textile stocks remained inactive with only minor changes in quotations for the last week according to the weekly report as furnished by R. S. Dickson & Co., under date of Dec. 14. For the week ending Dec. 6 the average in bid price of 25 of the more active shares stood at 86.92 as compared with last Saturday's close of 87.08 for the same group of stocks, thus showing a gain for the week of 16c. per share.

Textiles on N. Y. Exchanges—The following shows the movements of the leading textile stocks listed on the New York Stock Exchange and Curb for the week ended Dec. 18:

	High	Low	Last Sale	Net Change
American Woolen	9¼	8¼	8¼	.....
American Woolen, pfd.	23¼	21¼	21¼	— 1½
Belding-Hemingway	6¼	5¼	5¼	— ¾
*Blumenthal	34	28¾	29¾	— 4¼
Botany Mills, A	3¼	2¼	3	— 1
Cannon Mills	32¼	30¼	30¼	— 2
Collins & Aikman	16¼	14¼	14¼	— ¾
Consolidated Textile	1¼	1	1	— ¼
Duplan Silk	15	14¼	15	.....
Gotham Hosiery	26	22½	23½	— 3
Kayser, Julius	41¼	39¾	41¼	— 1¼
Kendall, pfd.	82½	80½	82½	+ 2½
Mallinson	10¼	9¼	10¼	— ¾
Mohawk Carpet	45	42½	43¾	— 1¼
Munsingwear	53¼	52	52	+ ¾
Pacific Mills	22½	18	22	+ ¾
Phoenix Hosiery	12¾	12¼	12¼	— ¼
*Powdrell & Alexander	78½	70	70	— 8½
Real Silk Hosiery	52½	47	48¼	— 2¾
*Tubize	173½	155	159	—18
United Piece Dye Wks.	23½	22½	23	— ½
Van Raalte	17½	17½	17½	+ ½

*Listed on Curb.

FOR EACH OF RAYON'S COUNTLESS USES THERE IS ONE CORRECT

Crown Brand Rayon Yarn

THE RECORD of rayon is one of rapid change and constant betterment. Many excellent yarns are available now—but there are important differences between various brands and between the varieties of yarn in each brand ✲ CROWN Brand Rayon Yarns are the standard of quality in dozens of different classes. All are marvels of manufacture—true to denier, absolutely even, clear-dyeing, readily worked, permanent in finish and color, certain in service. But even the finest basic material must be intelligently handled. A close study of the specific properties of Dulenza, Dulesco and other Crown Brand Rayon Yarns will repay any factor making or selling rayon fabrics ✲ Those who place orders for special cloths will best protect their interests by knowing the correct yarn for the purpose and by writing exact specifications. The phrase "or equivalent" is a dangerous qualification that can only cause trouble. No one would use it in a talk with his tailor ✲ Specialists of The Viscose Company are always ready to confer with you on any problem of manufacture or promotion. They can show you fine points that mean finer results. This company was the pioneer in the making of rayon in this country and has been at all times the world's largest producer—its facilities are at your disposal. Address inquiries to the New York Office—171 Madison Avenue . . . The Viscose Company.

The 1928 *distribution of Crown Brand Rayon Yarn by uses*

[FIGURES ARE POUNDS]

Underwear . . .	17,820,000	Other Knit Goods	2,160,000	Silk Goods . . .	7,020,000	Braids, Elastics, etc.	3,240,000
Hosiery	9,720,000	Cotton Goods .	10,800,000	Wool Goods . .	540,000	Miscellaneous . .	2,700,000

Estimated output for 1929—66,000,000 lbs.

It is significant that increasing numbers of manufacturers are so proud of results obtained with Crown Brand Rayon Yarns that they are using this crown on their own labels to identify their products. We restrict its use to high-type textiles and well styled quality merchandise. It is assurance of lasting merit.

MADE OF CROWN Rayon BRAND Yarns

Rayon Underwear Active

Accelerated Demand Indicates Increased Favor as Gift Line

HEAVYWEIGHT underwear was steady all week, with considerable pressure for early shipment of reorders in the cases of mills that are selling beyond capacity. As a rule, neither jobbers nor retailers found much difficulty in placing spot business. Holiday interest seemed to turn more to medium-weight and rayon underwear. This was particularly true of men's goods.

Women's underwear as a Christmas proposition still falls largely in the glove silk class, though there has been an increase in the holiday demand for women's rayon underwear. Certain mills selling both women's rayon and glove silk lines noted a gain in sale of the higher-priced rayon goods, and ascribed this to the economy trend, due to the market slump.

Men's rayon shirts, shorts and union suits all were in steady call. Large-scale producers of these lines said the holiday business to date was "excellent" and predicted that their total December turnover would be much larger than for the same month last year.

A fair amount of spring business was placed, but buyers were inclined to hold off until after the holidays. Market uncertainty had slowed up buying, both by the jobber and the retailer, and the rush of last-minute shopper activity has virtually swamped them in some instances. They had little thought for spring, and concentrated their energies this week on immediate business. Christmas began late, and the market was anxious to get the full benefit of the active buying which has been at its peak this week.

Hosiery Gift Call at Peak

Last-Minute Buying Keeps Mill Operating at Capacity

IT BECAME evident this week that the high pressure hosiery demand which first registered about Dec. 1, will continue right up to Christmas. Most of the large hosiery mills were operating at capacity last week, and numerous firms were still behind on Christmas reorders when the current week opened.

The New York representative of an outstanding company said they were sold-out up to Jan. 1, on their more popular numbers of women's full-fashioned. This strenuous buying leans chiefly to medium-priced goods both in men's and women's lines. A few knitters of high-priced full-fashioned were in satisfactory position last week but generally speaking the demand for the more de luxe hosiery as a gift proposition has been lighter than other years; this statement is subject to qualification, as a flood of last-minute buying which is likely, would naturally send figures upward.

Holiday Call Belated—The whole holiday demand has been compressed into a shorter space of time than usual. Many jobbers and retailers, doubtful about the effect of the stock market slump, were hesitant in placing orders, and therefore found themselves short when the Christmas rush developed. For that reason, it will not be possible to accurately gauge the holiday sales until long after Christmas.

The current tone is confident. Half-hose is in good call, but here again the trend is to medium-priced numbers. Certain of the fancies retailing at $1 and upward were moving, especially the all-wool and mixture numbers; but buyers showed more confidence when buying the 50 and 75c. half hose. Gift demand leaned to conservative designs more than ever in men's goods; all-over patterns were slighted in favor of simpler styles. There was less restriction regarding colors; lively tones of blues, browns, grays and greens all enjoyed good call, as well as mixtures. The stores' gift combination of self-color hose and neckwear has helped the turnover on solid green and brown half-hose, retailers report.

Trend Toward Chiffons — Producers of all-silk full-fashioned report a trend toward chiffons. One knitter said he was doing a "remarkable" business on his two chiffon stockings, with particular emphasis on a four-thread number. Full-fashioned stockings made of standard brand synthetic yarn are in good call as a Christmas number, though whether the demand is greater than in previous years, it is too early to say. There has been a steady high-pressure call for all-silk full-fashioned, retailing at between $1.25 and $1.65, suggesting that holiday gift buying is falling into this class, rather than in the $1.95 hosiery which only began to get into real volume holiday activity within the past ten days.

◆ Outerwear Market Continues Steady

SWEATERS, bathing-suits and the other divisions of the outerwear industry were steady. No great rush of buying was noted at any end. Retail call for polo shirts was good, and this brought a quick demand for spot shipment of reorders as a gift proposition. Bathing-suit producers continued to write some 1930 business, though jobbers were disposed to slacken up on future orders until after the holidays. Several large companies have announced new lines of all-rayon and mixed fiber sweaters and polos for next year.

Outerwear producers do not regard the Christmas season with any great satisfaction. Numerous retailers have reduced their prices on sweaters and other knitted outerwear, and this has had an unfavorable effect on the market tone. Sweaters are less firm than usually for this time of the year, at the retail end. Indications are that the high-pressure call now manifest will roll up a good volume, but sweater prices have declined so considerably that retailers say they will be lucky if their net on this line equals that of last year at this time.

Stabilizing Wool Goods Prices

Constructive Merchandising with Backing of Wool Institute

THE greatest single development in wool goods circles for some time was the combined announcement of 200 mills, acting through the Wool Institute, to the effect that prices of spring merchandise would be maintained at opening levels. For several weeks prior to this statement individual mill men had expressed a similar purpose regarding their own course of action. In uncertain periods such as have been in evidence since late October, rumors are given greater credence than usual, especially among buyers looking for lower prices. The element of uncertainty has now been removed, and consumers may go ahead with assurance. Many who had stated that they would postpone buying until after the first of the year, the better to gage future probabilities, now show a greater disposition to buy.

Men's Suitings — Demand for fine

Highest Grade RAW *and* THROWN SILK

Especially for
HOSIERY MANUFACTURERS

OUR own direct source of supply in Japan insures a uniform quality of the very best grade of silk obtainable.

NEW YORK OFFICE
267 Fifth Avenue

JAPAN OFFICE
Teisan Bldg., Yokohama

worsteds has improved, with the call for plain effects predominant. Several sellers have noticed a trend toward pin checks, small plaids and something of a revival in shark-skins.

Inventory—Inventories are still in the minds of many and colors their purchasing. Several buyers have expressed a willingness to operate at once if they could secure Jan. 1 dating, in order to end the year in as favorable position as possible. This has been especially noticable in the women's wear end.

Women's Wear—The cloaking trade has been more interested of late. Tan is the most important color according to several mill centers. Staples are almost unwanted, the whole demand being centered on fancies, built along tweed and basket weave effects. A good sized covert business was also reported. One of the leading producers of popular priced chinchillas reports a very successful season in which sales exceeded last year's records all along the line up to the present time.

Indifferent Cotton Goods Trading

Prices Easier in Many Gray Goods Constructions

AFTER talking to representative cotton goods sellers, one's first impression leads to the belief that recent developments have been for the worse. Prices, already too low, have eased further, and buying is very slow. Converters, exporters and commission houses all tell the same story. Digging deeper, however, it is brought to light that sales really have totalled a considerable yardage, several stating that November and December to date have exceeded last year. All opinions in reality have been colored by the price situation, which, stated mildly, is exasperating, and none can hazard a guess when it will improve.

Sellers were positive that the bottom had been reached three weeks ago and advised purchasing. Gray goods prices have since declined considerably even though sales have been somewhat larger in many quarters. The market is again at a point where it is believed that bottom has been reached, but mill men are somewhat hesitant about expressing too strong an opinion. Their confidence has been a bit shaken.

Stocks Still Burdensome — Our old friend Excessive Stocks is still very much in evidence, and recent buying has done little to reduce his stature. Several mills have signified their intention of a longer holiday shut down, which will have an effect later but will do little to help at the present.

There is a large amount of unplaced business, but at what time it will develop into definite orders is unknown. There is a feeling that very few will get in at the low as all are waiting for someone else to start the ball rolling. Sellers tell of customers quietly telling them that they want to be kept informed and will place their business along with the rest. The net result will probably be a concerted rush, to which the market will quickly respond with higher prices —at least that is the hope grounded on good possibilities.

Export Trade Is Flat—At least one exporter feels that the present is a worse time than 1920. Even in those distressed times there was some business, contrasted with the present inactivity. It is an interesting question whether the present condition in domestic cotton goods has not been caused to a great extent by declining markets abroad, which, in turn, were brought about by a variety of causes including our tariff revision.

The uncertainty of the fate of the sugar schedule has caused Cuba, one of the exporters' mainstays, practically to withdraw from purchasing until some inkling as to future may be gained. The decline in coffee prices has severely damaged Brazil both in buying power and actual currency value. Other similar instances exist where slumps in rubber, copper, cotton, tin, etc., have affected different sections of the world, all of which tends toward a heavier stock accumulation at mills and a resulting pressure on home markets.

Exporters regard it as a question whether the Wall Street deflation was not a reflection of this world-wide commodity decline rather than the reverse. Under a complex economic hook-up, one prop cannot be kicked out without several others sagging under the strain which is then put on them.

◆ Broadsilk Holiday Turnover Fair

BROADSILK holiday business has been slightly less than usual, but on the whole, the turnover is satisfactory. Cutters and piece goods buyers are showing sustained interest in the spring prints. Chiffons are particularly strong. The preference is for large floral patterns, and the color trend continues to stress browns, navies, and greens. The only hesitancy evident is found in the aversion to future buying.

Rough Goods in Early Call—Rough goods are selling unusually early this season. Shantungs and novelty rough fabrics are being bought freely by the cutters, who look for a big rough goods season. Fabric manufacturers suggested that rough goods might be seized upon this spring to supply novelty to those who are tired of the long-sustained print vogue. The turn to shantungs, etc., also has the weight of a very active year of spun silk promotion behind it.

◆ "Feminine" Styles Aid Ribbon Sales

NARROW fabric producers report that the new trend toward longer dresses and more feminine styles for women has helped the sale of certain ribbon lines. Numbers which had moved only slowly during the year, showed activity about six weeks ago, and now are in active call.

The new fashions have revived the corset, and this also has aided ribbon sales. The call stresses a wide range of shades, especially pastels; all the popular silk and taffeta fabrics are selling, and there is a steady call for rayon-and-silk mixtures.

New shoe styles involving the use of ribbons appear to be taking hold and offer a field for broadening ribbon distribution.

More Cotton Yarn Inquiry

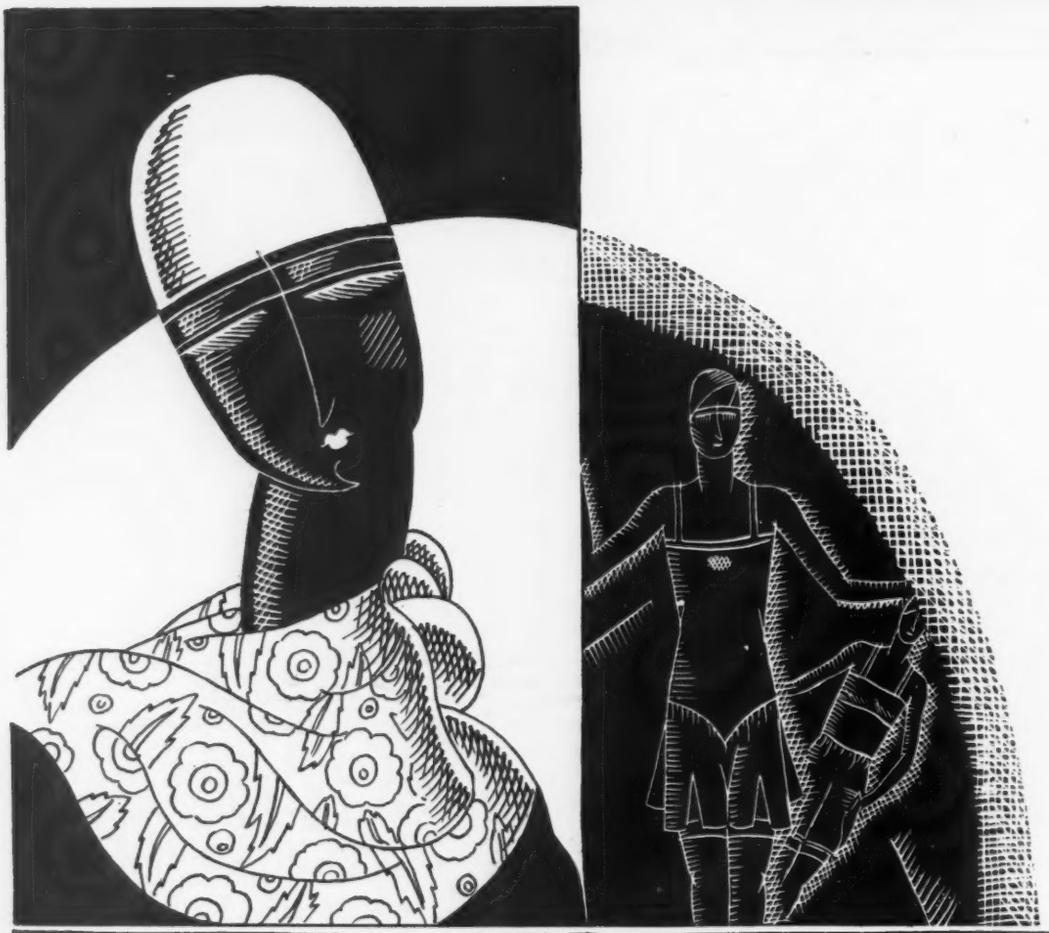
Bargain-Hunters Are Sharp Shooting in Yarn Market

PHILADELPHIA.

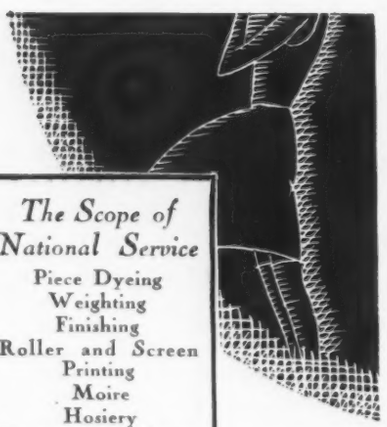
ALTHOUGH yarn prices are easy they are displaying more resistance to downward pressure than noted in recent weeks. Cotton has been trending toward lower levels and yarn prices have been dropping faster than the raw material, indicating that spinners are required to operate on a smaller margin than a month or six weeks ago.

Curtailment among carded yarn spinners is beginning for the first to show results, quotations holding better this week than during the previous two. Yet there has been further price-cutting by a number of spinners to induce quick business on which they may operate. Several carded knitting yarn spinners have taken fair sized orders of this character, calling for medium-weight counts to be delivered during the first quarter of next year.

Carded Knitting Yarns—Carded knitting cones have been quoted at 29c. basis 10s from spinners of average quality and sales of fair size have been reported



MAKE STYLE WORK *FOR* YOU!



The Scope of National Service

Piece Dyeing
Weighting
Finishing
Roller and Screen Printing
Moire
Hosiery
Rayon and Celanese Ribbons
Skein Silk
Knitted Fabrics
Mixed Goods

THE style seclusion that once enveloped all but the largest cities is largely a thing of the past. Now, every store counter is a potential outlet for your fabrics.

While this situation opens up a vastly wider opportunity to secure volume, it also carries a demand for quality. And that is where National service in Dyeing, Weighting, Finishing and Printing plays an important role.

National, through long specialization, has developed these important textile services to a high point of perfection. They are available to you on a basis which delivers uniformly fine results, plus the assurance of financial responsibility.

Reg. Trade Mark

NATIONAL SILK DYEING COMPANY

5 Colt St., Paterson, N. J.; *New York Salesroom:* 102 Madison Ave.; *Works:* Paterson, N. J.; East Paterson, N. J.; Allentown, Pa.; Williamsport, Pa.; *Canadian Branch:* Dominion Silk Dyeing and Finishing Co., Limited, Drummondville, P. Q., Can.; *Salesrooms:* Toronto, Montreal.

We recommend the registration of original designs with the Silk Association of America, Inc.

NATIONAL

one cent lower. Where manufacturers of underwear find a spinner in need of business and willing to shade their quotations business usually results and sales of this character give the market an improved tone as compared with last week.

Aside from low-priced business of this type dealers report the receipt of a larger numer of inquiries and, while manufacturers only offer exceptionally low prices, sellers believe the situation has improved to a slight degree, looking for this to result in a substantial expansion in trading immediately after the first of the year.

Up-State underwear manufacturers will be in the market for large quantities early next year, according to spinners catering to this trade, and the fact several of them believe the bottom has been struck at 28c. basis 10s proves to them that this is really the case. With inventory-taking out of the way healthy trading with this trade is confidently expected by spinners of carded and extra-carded qualities.

A larger number of inquiries from weavers have been received and while actual business has not materially expanded this week a number of dealers report booking business from concerns that have been out of the market for several weeks, sellers believing that stocks of many counts have been entirely exhausted by manufacturers who are buying small quantities to run them for the remainder of the month.

Spinners Willing to Dicker—Where a spinner of weaving yarns is located willing to shade prices a number of weavers are now disposed to place orders to run them for several weeks of the new year. Spinners quote ordinary quality warps on the basis of 33c. to 32½c. for 20s-2 and 38c. to 39c. for 30s-2, sales in both instances being reported at the lower figure and even these have been cut when spinners were endeavoring to stimulate future orders.

From a sellers' standpoint the most promising aspect this week has been the more general curtailment among carded yarn spinners, a large number of whom have reduced operating schedules to four days a week and many state they will close down entirely for the last week of this month not only to curtail but to permit them to take inventory.

Combed spinners are in a more favorable position than carded spinners, having in most instances a fair amount of business on their books and their present quotations are following cotton quotations closely so that combed spinners' margins are as large as they were a month or six weeks ago. Knitters using single combed qualities and weavers taking two-ply bought large amounts a month ago and spinners are more interested in obtaining specifications on these than they are in soliciting new business.

Mercerizers are finding their own customers slow to specify on mercerized yarn contracts and they in turn are holding up combed spinners, refusing to take deliveries on old contracts as specified. They look for a reversal of this condition after the first of the new year. There has been no important change in either two-ply combed or mercerized prices during recent weeks, the former closely following New York cotton.

•

CHARLOTTE, N. C.—Cotton yarns continued extremely quiet in the Charlotte-Gastonia market, as purchases are being delayed until after Jan. 1, but dealers and spinners generally do not look for any material activity in yarns until about the middle of next month.

It was reported that some business was placed recently in the carded qualities at somewhat reduced prices, but combed yarn spinners apparently have been firm in their asking prices although very few sales have developed. Stocks of yarn on hand at mills in the Gaston County area have not increased to any extent, and combed yarn spinners have been operating at about 89% capacity based on normal production schedules.

Although raw cotton prices are at lower levels than quotations of two months ago, spinners point out that the increase in the premium on staple cotton, from which the bulk of combed yarns is spun, more than offsets the decline in middling prices. For example, the premium on 1⅛ in. staple has advanced from 300 points on, to 450 to 500 points on.

Carded hosiery yarns on cones were quoted on the basis of 28c. for 10s single, while 20s-2 carded yarns were sold at 33c. and 30s-2 at 38c., average qualities.

•

NEW YORK—Notwithstanding several depressing reports from carded yarn sellers certain houses have done a good business in December. One in particular stated that their sales to date were almost double those of November, although they were well below a year ago. Prices left much to be desired, yet were considered fair.

When every one is bearish, it is time to get bullish according to some merchants, and several buyers have been operating quietly in the last two weeks. Individual orders were not large, but formed good sized totals when grouped. Interest has been rather evenly divided. Insulators have been buying more freely and show a greater disposition to look to the future. Weaving yarns have been taken by the towel and webbing trades while knitting yarns have been more spotty. Several looked for a turn at mid-week. They felt that there was a greater probability of an improvement in prices rather than a retrogression.

Reasons Offered for Decline—The price decline which started in a few weeks back was laid in part to the attitude of spinners who refused to follow the market downward. Prices were held at a level too high to be justified by current conditions while many mills were taking orders on a scale down basis. The other plants ran out of production and were then forced into drastic cuts to get business.

Poor merchandising and cut-throat policies of certain commission houses also came in for severe condemnation. It was intimated that there was a movement afoot among spinners to cease selling through such agencies and confine themselves to houses of first rank. Inexperienced salesmen who invited offers, and sending the trade circular letters containing low quotations came in for a share of criticism as being factors unnecessarily depressing.

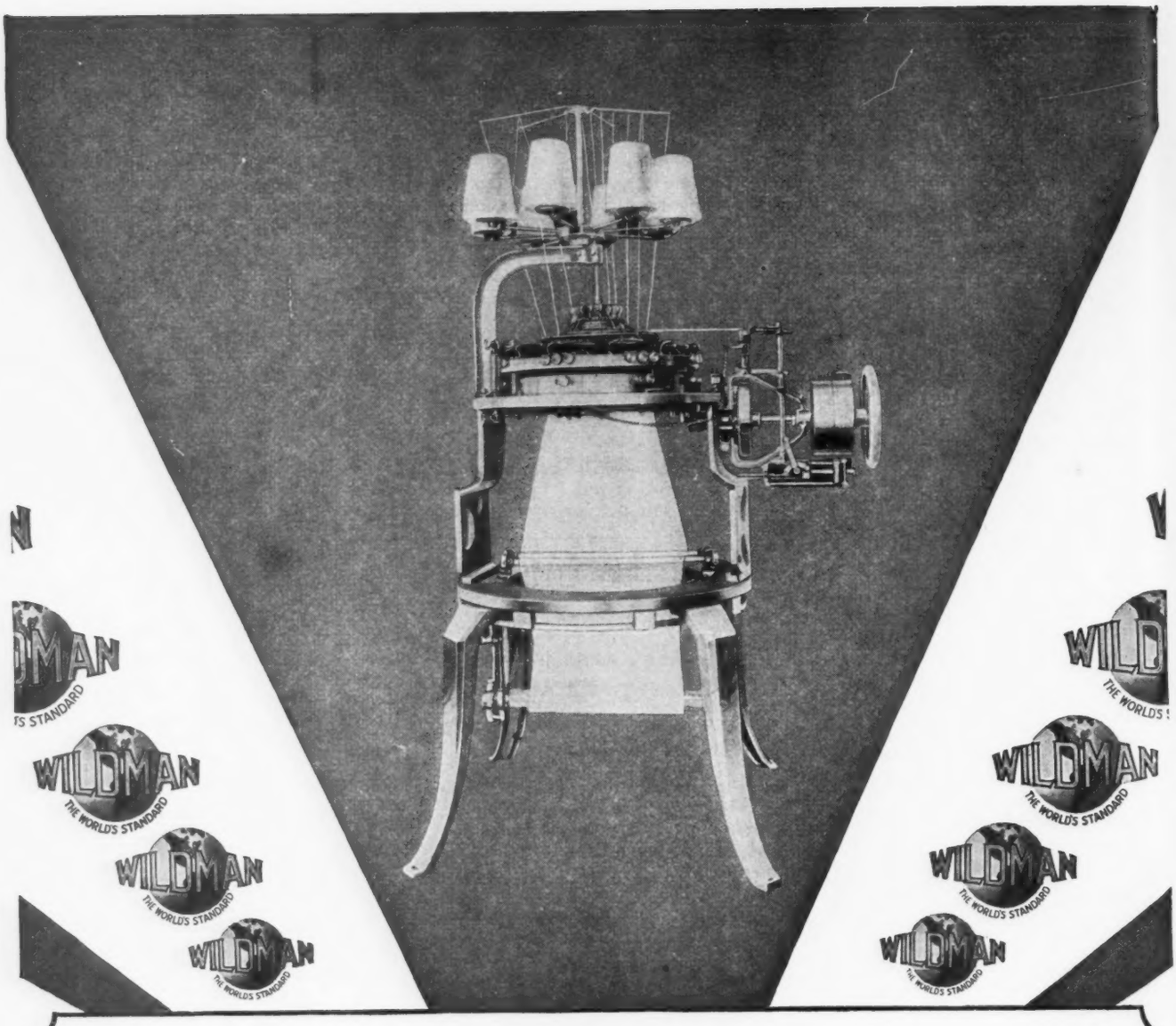
Combed yarn sales were unimportant, factors stating they were doing little more than a day-to-day business for spot consumption. They did note as an important thing, a lack of any pessimism among customers. All expect good buying after the first of the year, but are meanwhile deferring yarn purchases in an effort to keep inventories at rock-bottom.

•

BOSTON—Prices are a little weaker in all parts of the cotton yarn market in sympathy with the latest decline in cotton futures, and the only other notable change in the local market situation has been fairly numerous rush orders for comparatively small lots of yarns, usually requesting delivery by express. They are evidence of the fact that these particular users are reducing inventories to a dangerously low level, and that they lack confidence in current yarn prices, or in their ability to secure enough business on their products to warrant forward buying of yarns. Nevertheless, there has been some additional contracting of both weaving and knitting yarns for delivery through the first two or three months of next year and also at current minimum prices, and in some instances it is stated that there would have been a larger volume of such buying if yarns of certain leading mills had been available on the bargain table.

The market is even more difficult to quote accurately than during earlier weeks of this month, but on medium and coarse count carded yarns it averages about a half cent below prices of a week ago. There are few sellers of average quality warps below a basis of 34c. for 20s-2 yet these have been sold in a limited way at 33½c. and ordinary grades a half cent lower. Carded knitting yarns remain relatively firmer than weaving yarns, with most spinners asking a basis of 29c. and above for 10s cones, yet with an occasional lot of ordinary yarns reported picked up below a 28½c. basis. Combed yarns remain relatively slow of sale and with no quotable change in prices.

Perhaps the most encouraging feature of the market is the fact that users seeking small lots of yarn for rush delivery, and showing willingness to pay



For *quality* Rayon, use the
quality machine — Wildman

WILDMAN MANUFACTURING CO.
Norristown, Pa.

WILDMAN
SPRING NEEDLE BODY MACHINE

a premium of one half cent or so if shipped promptly, have encountered considerable difficulty in locating supplies. Some dealers and some spinners, of course, have fair-sized stocks of certain counts, but in most instances these rush orders had to be filled by withdrawals from lots in storage or transit on which deliveries had been temporarily held up by users.

Worsted Yarns Holding Well

Spinners Trying to Stabilize Their Prices

PHILADELPHIA.

THE best thing that can be said in connection with the present state of affairs in sales worsted yarns, is that conditions are not nearly so bad as many spinners and distributors have stated during the last month, several of the larger knitting yarn spinners asserting that while trading is admittedly dull they are no more so than at this time a year ago.

Men's wear manufacturers in this section are not buying additional yarn but spinners of mixtures state these mills are taking deliveries on old contracts at a fair rate, being fairly busy with orders on their books and indications are they will come into the market for yarns shortly after the first of the year.

Men's Wear Mixtures Steadier—Men's wear mixtures are holding steady although there are rumors of price-cutting in both Bradford and French spun, one manufacturer claiming that he has been offered a fair grade of 2-30s, fine, at less than the established price named by representative spinners of $1.90 for French. At present there is little difference between quotations of Bradford and French mixes.

Weaving counts in other qualities are spotty, manufacturers claiming they are able to buy at prices ten cents under those at which spinners are holding, one buying 60s French spun, at $2.10 while spinners are holding this count from $2.20 to $2.30. There are indications spinners are endeavoring to follow the policy adopted by weaving members of the Wool Institute in holding prices steady in the face of curtailment in demand. Yarn prices have not suffered greatly during the last month, except outerwear counts which have declined faster and more drastically than weaving numbers.

Trading in outerwear counts, while quiet, is no more so than last December. Trading has fallen off drastically since the decline in the stock market but there was a small spurt in sales late in November, new business being quiet at present. Specifications on old contracts are large as this time of a year ago and the year will close with the volume of sales yarn taken by sweater concerns estimated at about 25% larger than for 1928.

Outerwear Activity Coming — There are definite indications that when manufacturers feel sure price-cutting in outerwear counts has reached the bottom of the present downward swing they will place substantial orders, the trade looking forward to activity early next year for sweaters, infant's wear and bathing-suits.

Price-cutting in outerwear yarns reached what appeared to be the low point more than a week ago when at least two spinners took business in the Cleveland market, at $1.20 for 2-20s, 50s, for which the average spinner is quoting $1.25 at present. Manufacturers assert they have not been able to buy a first class yarn low as $1.20 here as yet while spinners believe the bottom has been reached or approximately so at $1.25.

There has recently been a call for cheap grade of single yarns from bathing-suit mills, taking a low grade quarter at $1.25 for 15s. More active trading with this group is looked for immediately after the beginning of the new year. Zephyr yarns have been selling in small quantities on the basis of $1.77½ for 2-40s, 64s, French spun.

Manufacturers of infant's wear have been interested in 2-18s and 2-20s in three eighths grade, fair business having been done with these mills during recent weeks. Several mills are looking for good business in knitted berets for spring wear which will take 2-20s and coarser counts.

◆Thrown Silk Quiet, Pending Holidays

THROWN silk reflected the week's fluctuations in raw silk, and ended where it began, with prices unchanged. There was mild buying by hosiery manufacturers, mostly March business; this call stressed special crack double at $5.55, and there was also some demand for the finer trams.

Crepe business dwindled to a negligible point. A few broad-silk firms were in the market for organzines, but orders were small and obviously restricted to immediate mill needs.

Throwsters look for a virtual standstill in buying during the next ten days.

◆Spinners Look for Big January Call

THE spun silk market has felt the slackening of demand that annually marks the Christmas period, though this let-up is much less pronounced than in the other silk divisions. There was a steady turnover all week, mostly small orders and split equally between spots and futures. The chief feature is the confident attitude manifest among manufacturers.

Broadsilk weavers are in close touch with their sources of spun silk supplies, and are making many inquiries, preparatory to some big volume buying in January. Spinners do not look for any rush of business prior to the new year, but have high hopes for the first quarter of 1930. The unusual interest shown by the weavers in spun silk fabrics, the increased variety of cloths planned and the evident intention of the fabric trade to push rough goods during the spring months, all have combined to make the outlook very promising.

Rayon Market Steadier

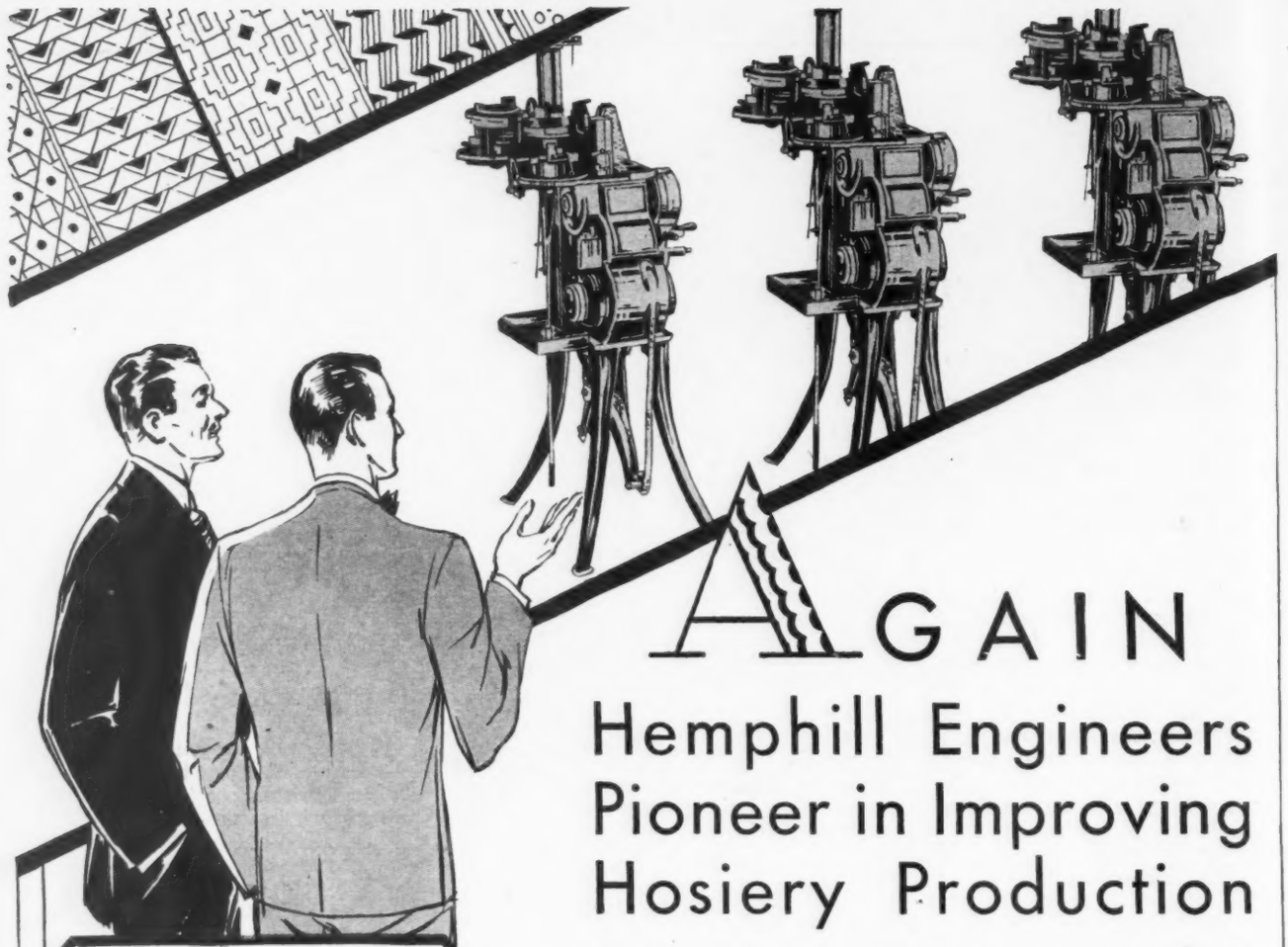
Increased Confidence Follows "No Price Cut" Announcements

A STEADIER tone was remarked in the rayon market this week, following the announcements by producers that there would be no price cut. December business to date is as good, possibly better than last year, New York executives asserted. Both weavers and knitters are buying steadily. The holiday period has had its usual effect of slowing up orders, but there is still considerable business being placed.

Weavers showed surprising interest, both in their orders and in their inquiries. They have been much encouraged by the current movement of rayon fabrics and are planning increased output in January. Several weavers have notified producers that they will be in the market for substantial quantities of rayon yarn shortly after the first of the year.

Statement by S. A. Salvage, president of Viscose Co. in full follows:

"It has been reported to me that some rumors prevail in the market to the effect that rayon prices will shortly be reduced. I can see no foundation for such rumors, and I take this means of publicly notifying all of our customers that the Viscose Co. has no intention of reducing prices, and will not do so. Buyers of our product should make



AGAIN

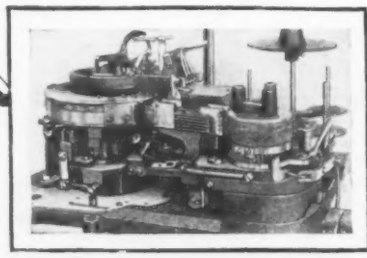
Hemphill Engineers Pioneer in Improving Hosiery Production

The Hemphill board of engineers, always planning to anticipate the needs of the hosiery industry, have created and supplied the most impressive line of automatic hosiery knitting machines in the world. In their service before and after installation, in their cooperation with the most progressive mills, these pioneers of design, operation and production have built Banner Machines to an ideal of "the widest possible range of usefulness."

And now they announce THE NEW 12-STEP REVERSE PLATING ATTACHMENT, adaptable to any model of Banner Automatic Machine—a revolutionizing device for increasing the patterning capacity of production units already considered highly efficient. The Banner 12-step attachment perfects SINGLE-STITCH PATTERNING. It eliminates the time formerly needed for individual cam adjustment by providing a single master-adjustment which requires no "tuning up" or "running in." And it introduces the Hemphill-designed COLLAPSIBLE DRUM SYSTEM OF CONTROL, allowing any multiple of courses 1 to 48. With the new 12-step, Hemphill engineers have again demonstrated their leadership in the steady improvement of hosiery manufacture.

THE NEW
BANNER
12-STEP
REVERSE PLATING
ATTACHMENT
FOR ALL
BANNER AUTOMATIC
KNITTING MACHINES

—introducing the new collapsible drum system of control, with single cam adjustment.



Complete particulars of the Banner 12-Step Reverse Plating Attachment on request of an executive.

HEMPHILL COMPANY

PAWTUCKET, R. I.

93 WORTH STREET, NEW YORK

PHILADELPHIA 213 So. Broad | CHATTANOOGA, TENN. James Bldg. | HIGH POINT, N. C. Commercial Bank Bldg.

their calculations on at least the present level of our prices."

Hiram S. Rivitz, president Industrial Rayon Corp., issued the following statement:

"Market conditions over the year-end in practically all lines of business are usually unsettled due to a general slowing up or temporary shutdown for inventory or general overhauling.

"This period usually brings with it, with the expiration of old contracts and renewals for the coming year, rumors and gossip of contemplated price changes that are oft times unwarranted and unfounded.

"Rayon manufacturers throughout the country have had an excellent business during 1929. Inventories of both manufacturer and textile mills are below normal, and while the immediate demand for rayon has been somewhat reduced at the moment due to reasons stated above, the outlook for 1930 is very promising and we see no reason for any uneasiness or hesitation on the part of the buyer to make preparations for a good substantial business for the ensuing year.

"Rumors of lower rayon prices are altogether unfounded so far as our company is concerned, and we wish to assure our customers that we do not contemplate any reduction in our prices."

◆Basis on Cotton Waste Lower for 1930

BOSTON.

THE market continues to find its chief interest in reports regarding prices paid on contracts for the year 1930. Some of the southern contracts have been placed it is said at from 81 to 83% which is approximately 5% below a year ago. Conservative opinion is that these percentages are too high and that if the bulk of the contracts are made anywhere near this figure further trouble is to be expected in merchandising operations next year.

The demand for cotton wastes in the local market is not what it ought to be but taking the year as a whole there is no reason to suppose that the consumption has shown any falling off. An exception however would have to be made regarding woolen mill utilization. Under normal conditions of wool manufacturers about 7% of the total raw material utilized by the woolen branch of manufacturing is some form of cotton waste. In this connection it may be remarked that the consumption of cotton waste in New England for the year 1927 amounted to 60,622,000 lb. as compared with 49,342,000 lb. in the year 1925. Consumption of cotton waste in the cotton-growing States declined for 1927 to 34,578,000 lb. as compared with the consumption in 1925 of 56,392,000 lb.

The call from knitters for comber and similar material seems to be fairly well maintained. Like all other markets dealing with raw materials of a textile character a good-sized measure of depression is everywhere evident. The cotton waste trade has not been alone in its experience this year of handling a larger quantity of material at little or no profit. The same has been true of the wool market and the markets for its byproducts and wastes. Looking into 1930 the cotton waste market has more promise of a successful year than either of the markets above mentioned. With contracts placed on a lower basis and normal demand business ought to be better for members of the exchange in the months to come.

◆Fair Call For Rayon Waste

WOOLEN and worsted manufacturers showed increased confidence this week, as regards purchasing rayon waste. A fair amount of business was placed, and it served to encourage the market. Trading as a whole continued quiet, however; and no real impetus is looked for before the first of the year. Manufacturers of automobile upholstery fabrics continued hesitant; a few orders for waste were available, and these were eagerly picked up in the trade.

Prices, which have been weak for some time, showed signs of strengthening, especially those paid for high quality waste. There is considerable inferior waste available in the New York market at present, but only limited quantities of the better grade, dealers said.

Current buying is largely spot, and orders are small. One waste dealer reported that he picked up some bargain stocks offered this week by yarn producers. This waste was purchased in expectation of an increased demand early in January.

◆Noil Prices Are Now Abnormally Low

BOSTON.

THE price level for domestic noils is at the low point for a long period and, what is even more important, abnormally low as related to wool. Such a situation cannot be maintained much longer. Over a reasonable period the relation between wool and its by-product is held firmly around 80% with minor fluctuations above and below this figure. The market is so low that it cannot go much lower unless there should be a marked slump in wool, which is improbable.

In 1927 about 20% of the raw material utilized in the manufacture of woolen fabrics was composed of noils and mill wastes. This percentage has probably been about the same for year to date but the consumption of raw material in the aggregate by the woolen branch has been decreasing rather rapidly during the last six months.

The United States at the present time is well able to supply its own consuming demand except perhaps in the case of particularly fine Cape noils which in recent weeks have been imported in small quantities. Looked at in a broad way the increased duties on wool noils while increasing to the same amount the duty on hair noils has left the importers of these latter materials in a safe position. Putting a flat duty on all noils is analogous to putting a flat duty on all rags. It discriminates against the imports of the lower-priced materials. A wool noil costing 50c. will under the Senate rate pay 23c. per pound; a camelhair noil costing $1.50 will also pay 23c. per pound.

◆Recovered Wool Output Curtailed

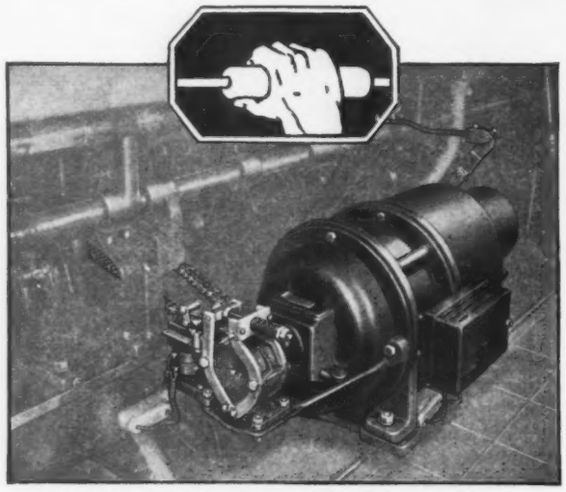
BOSTON.

NO change for the better can be reported regarding prospects for a larger consumption in the near future of woolen rags and recovered materials. In 1927 approximately 28% of the raw material consumed by the woolen industry was rags, clips and reworked wool. Under normal conditions in woolen manufacturing this consumption provides a lively market in both kinds of material. It may be supposed that in 1929 the percentage consumption of both classes of materials has been unchanged from 1927 but the actual poundage utilized will be much smaller than in that year owing to decrease in total amount of raw material utilized in the woolen branch of manufacturing.

Shortened schedules are becoming the order of the day in some of the reworked wool plants. The situation seems full of uncertainty and with the tariff question unsettled handlers of woolen rags both domestic and foreign are positively up in the air. There is a limited call for some of the rags such as light hoods, fine light merinos, black and blue serges and several of the colored knits. Graders find it very difficult to move the white knits and softs. The slump in wool wastes has affected this section of the market although it may be pointed out that the white knit stock is not far from normal when the price at which it is offered is related to the wool of similar quality.

The Chelsea woolen rag district is at the lowest point of activity for year to date and the only change that can take place apparently is one for the better which may occur unexpectedly and will in all probability be the end of the bargain counter prices that prevail today.

When the switch is tripped
~ ~ ~ ~ ~ the machine comes to a



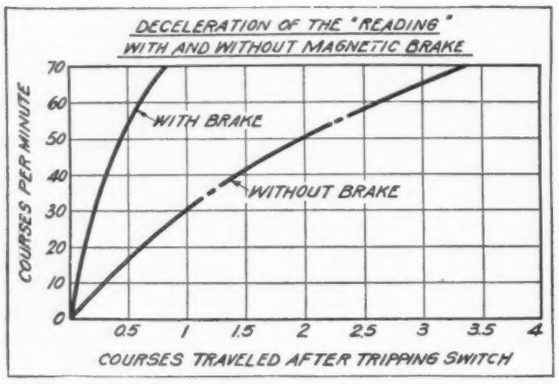
The Magnetic Brake makes it easy for your operators to stop their machines at any position without using the handwheel as a brake. Even at high speed the carrier travel will be no more than ten inches after the switch is tripped.

STOP QUICKLY!

ONE of the outstanding features of the New "Reading" Drive is an automatic magnetic brake which is so positive in action that it will bring the machine to a dead stop before the carriers have traveled a course!

This solenoid type brake is held in the "off" position against the action of a compression spring by an electromagnet. When the switch is tripped by the operator the electromagnet releases its hold and the brake is brought into action by the spring.

Then, the instant all motion has ceased, a time relay *releases* the brake automatically so that the operator may turn his machine to any desired position with the handwheel. Consider the time and energy conserved by this feature of the new "Reading" Drive as well as a decided reduction in press-offs.



The chart above shows you the deceleration of the machine with and without the brake.

TEXTILE MACHINE WORKS
READING, PENNA.

See also CONSOLIDATED TEXTILE CATALOG

The "READING" Full-Fashioned Knitting Machine

Cotton Market Goes Lower

Waiting for Trade Conditions To Develop After Holidays

THE cotton market has been quiet during the week with prices working lower under southern selling and liquidation. The former was considered largely in the way of hedging against some increase of spot offerings in advance of the holidays. The latter was promoted by the reports of the freer offerings in the South, unfavorable trade reports from Manchester and the emphasizing of old bullish factors as accounting for the failure of cotton to sell at higher prices during the autumn and early winter.

In a general way the decline undoubtedly reflected a continuation of the selling movement which developed shortly after the publication of the Government's crop estimate and the standard cloth statistics for the month of November. The estimate was not bearish when compared with the average world's consumption of American cotton for the last three years, but it failed to stimulate demand and was a disappointment to holders of cotton. The cloth statistics suggested that more radical mill curtailment may be necessary to prevent further accumulations of cotton goods, and there were reports that poor trade was leading to curtailment of manufacture in Manchester.

For the moment, at least, these factors seemed to outweigh bullish features in the situation, and the decline extended to 16.82 for January contracts at the beginning of the week, or within 6 points of the low level of Nov. 13 and about 86 points below the high price touched on the rally toward the end of last month.

Bullish Factors are Latent—However sound a bullish factor in the cotton market may be, its effectiveness is entirely dependent upon the amount of buying power that it creates. There are at present bullish statistical features in the situation which would appear to justify expectations of an advance, while there can be little doubt that remaining supplies of desirable cotton in the South are in particularly strong hands. These, at the moment, appear to be negative rather than positive factors. That is to say, they discourage speculative selling for short account and have a tendency to create points of resistance in the futures market, but they have not as yet developed any general or aggressive buying power.

It would not be altogether easy, perhaps, to place one's finger upon the exact reason why they have failed to do so. It may be remarked, however, that the big American crop of 1926 was a stabilizing factor, the influence of which does not appear to have been entirely eliminated, although the last of the surplus production disappeared before the end of last season. Speculation is always slow to enter a stabilized market, and this season's estimates of supply have come so nearly balancing accompanying ideas of probable world's requirements, that there has been little to attract general speculative interest, so long, at least, as the stock market was attracting such universal attention.

Uncertain on World Consumption—Meanwhile much uncertainty has developed with reference to the world's probable consumption, and traders are waiting for some more conclusive indication as to whether it will equal that of last season. In any event, however, spinners by all accounts, have still considerable cotton to buy. As long as cloth market conditions remain indifferent, their policy will doubtless be to buy from hand-to-mouth, but if there is a revival in the demand for textiles after the turn of the year, demand for spot cotton will doubtless show a similar improvement. If so, it is certainly a question whether it could be supplied at the prevailing level of prices.

These are the points which will be most closely watched by most cotton traders pending something in the way of coming crop developments or prospects, regarding which there is already more or less discussion. A feeling that there is danger of increased area persists in some quarters, but it is also pointed out that some of the southern organizations are advising their members against over-planting, and that efforts to educate the grower as to the dangers of an over-supply, are likely to become more general as the season advances.

●

MEMPHIS, TENN., Dec. 16.—There is an air of inactivity in the cotton market here, although first-hand sales continue to make good daily and weekly totals. A very few are inclined to be pessimistic, either as to prices or ability to move stocks. By far the larger number of shippers, big or little, will say they find it hard not to be bullish, while admitting that new business is meager and that requests for delay in making shipment are becoming more frequent.

There is also a disposition to mark time while the Senate investigation of the cotton market is under way and until the probable outcome of the Farm Relief cotton conference, held at Memphis recently, is clearer. Both developments are awaited, not without some misgivings. Some go so far as to say the well-being of both cotton merchant and cotton grower is being undermined by the unsettlement of cotton legislatively by constant new legislation and proposals for new legislation. Hope that benefits to them will accrue from projects now afoot is, quite naturally, encouraging owners of cotton to hold, so that cotton is perhaps harder to buy than to sell.

The edge is off demand however. Demand is fairly well divided between the low grades and the better grades. Low grades are wanted at prices—from 12 to 14—but, while there is considerable cotton in the fields, most of which will be productive of low grades, unsold stocks, here and in the interior, are not large because, for two months, the weather has been unfavorable for field work. Most of the better grades are held at flat prices above the market; in the present attitude of holders, an advance of about 75 points in contract values, or an equivalent advance in basis, would be required to bring out appreciable quantities. Some factors have had their tables covered for a month or more.

The official quotation, on basis, is unchanged from the previous week. Strict middling 1⅛ in. staples are quoted at 300 on the January contract; 1⅛ in. at 425 on and 1¼ in. at 750 on. The weather during the week, although mostly cloudy, was the most favorable since the middle of October, for harvesting the remainder of the crop. Temperatures were abnormally high. Some of the low lands are still quagmires but fairly good progress was made towards completion of the harvest.

●

BOSTON, Dec. 18.—The decline in futures prices has failed to stimulate demand for extra staple cottons, partly because most spinners are expecting still lower prices, and partly because shippers have shown a tendency to advance basis to offset the decline in futures. Most of the few spinners who have been buying steadily in small lots are refraining from fixing prices. Buying of rejections has become quite a feature of the market in staples as well as in shorter cottons, and this draws attention to the fact that rejections are running larger than for several seasons, the local arbitration board being fairly swamped with work resulting therefrom. It is quite possible that this factor is largely responsible for the firmness on basis of shippers to New England mills, for the cost of rejections has to be added to the shipper's selling price in some manner.

Very little interest is displayed locally in Egyptians for near shipment, the majority being well supplied excepting possibly on high grade Sak.; there have been a few inquiries for the latter from fine count mills, but not at practicable prices; at around 37c. for top grade Sudan Sak. is held far above the views of domestic buyers. All contracts on

Yes...

these "nobby" suspenders
BELONG *in this*
HOSIERY *ad.!*

Twenty years ago — or even ten — who would have thought of trying to increase the sale of suspenders by making them attractive, colorful and smart? No one, of course—because merchandisers hadn't yet sensed the real value of "eye appeal" —didn't realize that color and style would sell even merchandise that might be hidden in actual use.

Today, progressive merchants everywhere recognize instantly the sales value of FANCY TOPS for Men's Half Hose, as knit in an almost endless variety of harmonizing colors and designs on Fidelity Multi-Design True Rib Machines. It will pay you to investigate now.

FIDELITY MACHINE COMPANY
3908-18 Frankford Avenue
PHILADELPHIA, PA.

See also
CONSOLIDATED TEXTILE
CATALOG

MULTI-DESIGN

the Alexandria market have declined during the week, the largest being registered by the new crop months. October Uppers at $19.92 is off 69c. and November Sak. at $28.28 is off $1.20 for the week. These compare with a decline of 44c. in March Sak. at $27.59 and of 19c. in February Uppers at $19.20. The principal cause of the radical decline in distant months is said to be increased crop of Sudan cotton, picking of which will start in February; the Sudan crop is estimated at 180,000 bales as compared with 135,000 bales last year.

Wool Now Below Commodity Level

Surprising Position for Well Protected Domestic Product

WHILE the wool situation is not without its uncertainty it is nevertheless felt in some quarters that the actual bottom if not already reached is close to hand. This applies primarily to domestic wools which are out of line with commodities in general in the United States. This is shown in the following table in which the average price of Montana and Ohio wools for the year 1926 is taken as the base and so comparable with the Irving Fisher index of two hundred commodities also based upon 1926 prices:

	Wool-Montana-Ohio	200 U. S. Commodities
1926	100	100
1928, December	108	97
1929, December	82	92

The question of contracting for next year's clip seems to have been shelved indefinitely but some time in the new year the speculative instinct will reassert itself, and the market will again begin to talk contracting on the sheep's back. The tariff revision thus far has had practically no effect on the domestic wool situation nor has it done anything to speed up purchasing in foreign markets with the possible exception seen in a larger purchasing of South American wools.

The first consignment of 1,460 bales of this season's clip of Australian wool arrived in this city recently. Imports of Australians this year show a decrease of 1,062 bales as compared with last year while on the other hand the imports of South American wool show a large increase. Whether this situation will be reversed in the months to come is a matter that cannot be predicted with any certainty, but in view of the possibility that the domestic clip next season may again run short from the manufacturing standpoint of medium wool it is entirely credible that manufacturers will continue their utilization of domestic-grown merinos on a large scale.

Better Demand in Australia—Australian wool brokers encountering a better demand than they anticipated have not found it necessary to restrict their offerings 33% as intended and it looks as though the actual reduction in wools offered before Christmas would not exceed 20%. Urgent needs have been satisfied. Available supplies were sufficient to meet current requirements. There is nevertheless an element of uncertainty in the outlook for the new year and quotations for merinos and fine crossbreds in the world markets cannot be regarded as firm.

The second series of Wellington sales of New Zealand crossbred wools closed less firmly than anticipated. Some 25,000 bales were on the catalog and of this amount about 75% was sold with prices on an average 2c. per grease pound below the opening sales of the New Zealand season in the same city, Nov. 14. America bought a little of the best wools. The general effect of the sale was not conducive to optimism. The wool position the world over is still shot through with uncertainty and the immense amount of wool to be offered for sale outside the United States during the next six months will, unless it meets with more urgent and aggressive buying than has yet appeared, result inevitably in lower prices.

Raw Silk Demand Below Par

Most Users Restrict Orders To Immediate Needs

RAW silk demand has been spotty. Prices fluctuated considerably during the week, and returned to their accustomed low levels. A slight strength developed, but this was short-lived and had no significance. The market became weaker, if anything, as Christmas neared. Neither weavers nor knitters were disposed to any great quantity of buying. A few broadsilk houses placed business during the week, and some hosiery manufacturers bought into spring. Raw silk importers do not look for any real demand from the hosiery trade for some time; most of these knitters are adequately covered, some as far ahead as next June.

All current business is meager and sluggish. The pre-Christmas week was discouraging for importers. Demand appears to be well below even the normal low level of the holiday period. Manufacturers as a whole are hesitant. They have not recovered from the uncertainty following the stock market slump. There is a growing belief that spring will bring a good call for broadsilks, but the weavers still incline to a waiting policy.

December Sales Declined—December business in raws appears to be behind that of last year, though importers expect that year-end demand will probably bring turnover up to the 1928 level. One discouraging factor is that the end-December surplus will probably be larger than last year, due to increased imports which the declining market of the last quarter failed to consume. One importer estimated that end-December surplus in the raw silk market would be 10,000 to 12,000 bales larger than that of last year.

No big improvement is looked for prior to mid-January. Broadsilk firms have informed the importers that they are curtailing production temporarily, and therefore need less supplies. Output is expected to increase as weavers get closer to their spring business.

Burlaps Quiet and Easier

At mid-week, futures on the burlap exchange held steady despite lack of support on the buying side. February was the only active month. Four trades were made at an advance of 12 points over the previous days close. Spots were quoted at 5.40c.

The outside market was quiet with a decline of 2d. reported in Calcutta, and December deliveries in New York 5-10 points off. There was a limited amount of spot trading 10 points below the previous days low.

Spots of 8 oz. 40s were offered at 5.50c.; two weeks, 5.60c.; Dec.-June, 5.55c. Spots of 10½ oz. 40s were 6.75c.; two weeks, 6.85c.; Dec.-June, 7.20c.

Boston Wool Receipts

Receipts of domestic and foreign wools at Boston, also imports at Philadelphia and New York for the week ended Dec. 14, based upon data compiled by the Market News Service of Bureau of Agricultural Economics, Department of Agriculture, are as follows:

	Week Ended Dec. 14	Totals to Date 1929	Totals to Date 1928
Domestic	4,600,000	209,846,000	211,700,000
Foreign	700,000	93,717,000	.....
Total	5,300,000	303,563,000	.....
IMPORTS AT PRINCIPAL PORTS			
Boston	700,000	93,717,000	86,689,000
Philadelphia	1,950,000	87,900,000	70,713,000
New York	1,456,000	68,146,000	64,209,000
Total	3,106,000	249,853,000	221,611,000

QUOTATIONS

at close of business, Dec. 18, 1929
Prices cover average qualities unless otherwise stated

Cotton Goods

	Dec. 18	Dec. 11	Dec. 19 1928
PRINT CLOTHS			
27 -in., 64x60, 7.60..	4¾c.	4¾–4¾c.	5¾–5¾c.
38½-in., 64x60, 5.35..	6½–6½c.	6½–7 c.	7½c.
39 -in., 68x72, 4.75..	7½–7¾c.	7½–8 c.	8½–9c.
39 -in., 72x76, 4.25..	8½–8½c.	8½–8½c.	9½c.
39 -in., 80x80, 4.00..	9¼–9¾c.	9¼–9¼c.	10¼–10¾c.
BROWN SHEETINGS			
36-in., 56x60, 4.00...	8–8½c.	8½	8½c
36-in., 48x48, 3.00...	9½c.	10–10½c.	10½c.
37-in., 48x48, 4.00...	7½–7½c.	7½– 7⅝c.	8⅜c.
PAJAMA CHECKS			
36½-in., 72x80, 4.70..	8–8½c.	8½–8½c.	8½–9c.
36½-in., 64x60, 5.75..	7½c.	7½c.	7½c.
MISCELLANEOUS			
Drills, 37-in., 3 yd..	10½c.	10½c.	11 –11½c.
Denims, 2.20.....	15c.	15c.	17½c.
Tickings, 8 oz.....	20–21c.	20–21c.	21½–23c.
Standard prints.....	9½c.	9½c.	9c.
Eastern staple ginghams, 27-in.....	10c.	10c.	10½c.

Cotton Waste

Peeler comber	14½—15½
Peeler strips	13 —13½
Sak. comber	13½—14½
Choice willowed fly	7 — 8
Choice willowed picker	6 — 6½
Sak. strips	16 —17
Linters (mill run)	4½— 5
White spooler (single)	10 —10½

Cotton Yarn

CARDED—(Average Quality)
Double carded 2c.–4c. higher according to quality

SINGLE SKEINS OR TUBES—(Warp Twist)

4s to 8s	$0.29 –0.29½	20s	$0.32½–0.33
10s	.29½– .30	24s	.34 – .35
12s	.30 – .30½	26s	.34½– .35½
14s	.30½– .31	30s	.37 – .37½
16s	.31 – .31½	40s ex. qual.	.50 – .51

TWO-PLY SKEINS AND TUBES

8s-2	$0.29½–0.30	26s-2	$0.36½–0.37½
10-2	.30 – .30½	30s-2	.38 – .39
12s-2	.30½– .31	36s-2	.43 – .44
14s-2	.31 – .31½	40s-2	.45 – .46
16s-2	.31½– .32	40s-2 hi b'k	.50 – .51
20s-2	.33 – .33½	50s-2	.53 – .54
24s-2	.35½– .35½	60s-2	.62

SINGLE WARPS

10s	$0.30 –0.30½	24s	$0.35½–0.36
12s	.30½– .31	26s	.36½– .37
14s	.31 – .31½	30s	.38½– .39½
16s	.31½– .32	40s ex. qual.	.51 – .52
20s	.32½– .33		

TWO-PLY WARPS

8s-2	$0.30 –0.30½	24s-2	$0.35½–0.36½
10s-2	.30½– .31	26s-2	.37 – .38
12s-2	.31 – .31½	30s-2	.38 – .39
14s-2	.31½– .32	40s-2 ordin.	– .47
16s-2	.32 – .32½	50s-2	– .54
20s-2	.33 – .33½	60s-2	.62 – .63

8s-3 and 4-ply skeins and tubes; tinged, .26; white .28½–.29; waste, .25

HOSIERY CONES (Frame Spun)

8s	$0.28½–0.29½	22s	$0.32½–0.33
10s	.28½– .29½	24s	.33½– .34
12s	.29 – .29½	26s	.35 – .35½
14s	.29½– .30	30s tying	.35½– .36
16s	.30 – .30½	30s reg.	.37 – .38
18s	.30½– .31	36s ex. qual.	.39 – .39½
20s	.31½– .32	40s	.45 – .46

COMBED PEELER—(Average Quality)
WRAPS, SKEINS AND CONES

	Merc. Tw.	Wp. Tw.		Merc. Tw.	Wp. Tw.
20s-2	$0.45	–0.46	60s-2	$0.65½	–0.67
30s-2	.51	– .52	70s-2	.75	– .77
36s-2	.53	– .54	80s-2	.88	– .90
40s-2	.54	– .55	90s-2	1.00	–1.09
50s-2	.58	– .59	100s-2	1.09	–1.34

SINGLES

12s	$0.38½–$0.39	30s	$0.49 –0.50
14s	.39 – .39½	38s	.51½– .52½
16s	.39½– .40	40s	– .52½
18s	.40 – .40½	50s	.58 – .59
20s	.41 – .41½	60s	.64½– .65
24s	.44 – .44½	70s	.75 – .76
28s	.46½– .47	80s	.88 – .89

MERCERIZED CONES—(Combed, Ungassed)

26s-2	$0.62	–0.64	90s-2	$1.45 –1.50
30s-2	.63	– .65	100s-2	1.75 –1.80
36s-2	.67	– .69	120s-2	2.15 –2.20
40s-2	.68	– .70	30s	.77 – .80
45s-2	.71	– .73	40s	.80 – .85
50s-2	.73	– .75	50s	.88 – .90
60s-2	.82	– .85	60s	.95 –1.00
70s-2	.97	–1.00	70s	1.12 –1.15
80s-2	1.09	–1.12	8os	1.40 –1.45

COMBED REVERSE TWIST THREAD YARNS
(Skeins, Tubes or Cones, 2, 3 and 4-Ply)

	Peeler Average	Peeler Best	Sakelarides Average	Sakelarides Best
24s	$0.53– 0.54	$0.60– 0.61	$0.72	$0.77
30s	.56– .57	.63– .64	.75	.80
36s	.58– .59	.65– .66	.78	.83
40s	.63– .64	.69– .70	.82	.87
45s	.68– .69	.74– .75	.87	.92
50s	.73– .74	.79– .80	.92	.97
60s	.83– .84	.89– .90	1.02	1.07

Cotton Prices and Statistics

FLUCTUATIONS OF FUTURES

	Closed Dec. 12	For Week—High	For Week—Low	Closed Dec. 18	Net Change
December	17.00	17.08	16.79	16.94	—.06
January	17.07	17.16	16.82	16.97	—.10
February	17.21	17.24	16.97	17.12	—.09
March	17.37	17.46	17.10	17.28	—.09
April	17.49	17.52	17.23	17.40	—.09
May	17.62	17.72	17.34	17.53	—.09
June	17.68	17.73	17.50	17.62	—.06
July	17.75	17.88	17.51	17.72	—.03
August	17.73	17.78	17.52	17.71	—.02
September	17.71	17.75	17.51	17.70	—.01
October	17.70	17.81	17.50	17.72	+.02
November		17.79	17.65	17.79	

MIDDLING SPOT FLUCTUATIONS FOR WEEK

	New York	New Orleans	Liverpool
Friday, Dec. 13	17.25	17.06	9.53
Saturday, Dec. 14	17.20	16.98	9.47
Monday, Dec. 16	17.00	16.76	9.42
Tuesday, Dec. 17	17.05	16.84	9.31
Wednesday, Dec. 18	17.15	16.93	9.37
Thursday, Dec. 19	17.10	16.88	9.40

SPOT FLUCTUATIONS AND STOCKS

Market	Dec. 11	Dec. 18	Sales	Stocks This Week	Stocks Last Year
Galveston	17.25	17.15	7,185	509,750	647,180
New Orl'ns	17.06	16.93	24,123	510,923	365,585
Mobile	16.40	16.30	3,357	61,463	54,748
Savannah	17.20	17.03	4,193	85,522	59,795
Norfolk	17.13	17.00	2,378	72,098	106,468
New York	17.30	17.15	5,250	92,938	39,745
Augusta	16.94	16.75	1,617	109,940	79,950
Memphis	16.30	17.10	35,940	397,013	237,907
St. Louis	16.00	15.75		10,863	24,263
Houston	17.15	17.05	45,817	1,163,623	905,840
Dallas	16.30	16.15	31,913	45,711	27,546

BASIS MIDDLING

	Dec. 14	Dec. 7
10 markets average	16.56	16.79
Memphis	16.15	16.40

PREMIUM STAPLES

First Sales from Factors Tables at Memphis

Grade Strict Middling	Prices Firm
1⅛	19.90-20.25c.
1 5/32-in.	21.15-21.50c.
1¼-in	24.50-25.00c.

CURRENT SALES

	For Week	Prev. Week	Week Before
Memphis total	33,078	36,375	33,333
F.o.b. included in total	30,003	26,167	27,055
10 markets	158,932	166,376	132,244

MEMPHIS RECEIPTS, SHIPMENTS, ETC.

	For Week	Last Year	Year Before
Net receipts	28,726	30,677	21,903
Gross receipts	68,633	65,093	51,291
Total since Aug. 1, net	617,859	452,860	437,490
Shipments	63,050	61,567	58,594
Total since Aug. 1	841,488	718,486	667,149
Total stock	391,500	226,843	272,719
Increase for week	5,583	3,526	*6,801
Unsold stock in hands of Memphis factors	57,453	.....	.....
Decrease for week	4,114	.....	.....

*Decrease

AVERAGE PRICE JAN.-FEB. SHIPMENT HARD WESTERN COTTON

	Middling	St. Middling
1 1/16 in	20½–21 c.	21½–22 c.
1 1/16 in. to 1⅛ in	20¾–21½c.	22 –22½c.
1⅛ in	21 –21½c.	22½–22⅞c.
1 3/16 in	23 –24c.	24½–25½c.
1¼ in	26½–27½c.	28 –29c.

Basis on New York, March, 17.45c.

DIFFERENCES ON AND OFF MIDDLING
WHITE GRADES

	Dallas	Memphis	Montgomery	Augusta	Average
M. F	1.00†	.90†	.70†	.63†	.82†
S. G. M	.70†	.65†	.55†	.50†	.65†
G. M	.45†	.40†	.40†	.38†	.51†
S. M	.35†	.25†	.25†	.25†	.36†
S. L. M	.75*	.65*	.75*	.75*	.76*
L. M	1.75*	1.60*	1.50*	1.50*	1.73*
S. G. O.**	3.00*	2.50*	2.50*	2.25*	2.80*
G. O	4.00*	3.50*	3.50*	3.00*	3.78*
YELLOW TINGED					
G. M	.0*	.75*	.50*	.25*	.50*
S. M	1.00*	1.15*	.75*	.75*	1.00*
M.**	1.75*	1.50*	1.25*	1.50*	1.60*
S. L. M.**	2.50*	2.00*	1.75*	1.88*	2.27*
L. M.**	3.25*	3.00*	2.50*	2.88*	3.15*
YELLOW STAINED					
G. M	1.50*	1.40*	1.25*	1.25*	1.50*
S. M.**	2.25*	2.15*	2.00*	1.75*	2.35*
M.**	3.00*	2.65*	2.75*	2.50*	3.13
BLUE STAINED					
M. G.**	1.75*	1.25*	1.50*	1.75*	1.65*
S. M.**	2.25*	2.00*	2.25*	2.50*	2.40*
M.**	3.00*	2.50*	3.00*	3.50*	3.18*

**Grades not deliverable on contract. †On Middling. *Off Middling

EGYPTIAN COTTON

January-February Shipment c.i.f. Boston		Change
Fully good fair Sak	31.15	—0.15
Fully good fair to good uppers	22.40	—0.15

(By JOHN MALLOCH & CO.)

Alexandria Exchange, Dec. 18.		
January Sak	27.18	+0.25
December uppers	19.20	+0.19

Wool

OHIO, PENNSYLVANIA AND WEST VIRGINIA

Fine delne	$0.35 –$0.36	¾ blood	$0.42–$0.43
Fine clthg	.29 – .30	½ blood	.41– .42
¼ blood	.41 – .42		

TEXAS AND CALIFORNIA

Texas, 12 months	$0.80 –$0.83
California, Northern	.77 – .80

PULLED—EASTERN (SCOURED BASIS)

A-A	$0.88 –$0.92	B-Super	$0.72 –$0.75
A-Super	.80 – .83	C-Super	.67 – .70

MONTANA, IDAHO AND WYOMING (SCOURED BASIS)

Staple fine	$0.88 –$0.90
Staple ¾ bld	.88 – .90
Fine and fine medium	.87 – .89
¾ bld. blood	.87 – .87
½ blood	.75 – .78

MOHAIR—DOMESTIC

Best carding	$0.43 –$0.45
Best combing	.60 – .62

MOHAIR FOREIGN (IN BOND)

Turkey fair, average	$0.41 –$0.43
Cape firsts	.43 – .45

FOREIGN CLOTHING AND COMBING (IN BOND)

Australia:	
70s	$0.78 –$0.82
64s	.65 – .68
58s-60s	.65 – .67
Montevideo:	
58-60s	$0.35 –$0.36
56s	.35 – .36
50s	.34 – .35
Buenos Aires:	
4s, 40-44s	$0.30 –$0.31
5s, 36-40s	.28 – .29

FOREIGN CARPET (GREASE BASIS IN BOND)

China: Combing No. 1	$0.26 –$0.27
China Filling Fleece	.25 – .26
Szechuen ass't	.27 – .28
Cordova	.23 – .24
Scotch black face	.25½– .26
East India: Kandahar	.36 – .38
Vican'r	.41 – .43
Joria	.41 – .43
Aleppo	.38 – .39

Worsted Yarns

BRADFORD SYSTEM

2-12s, low, com. (36s)	$0.95 –$1.00
2-16s, low com. (36-40s)	1.00 – 1.00
2-20s to 2-24s, low ¼ (44s)	1.10 – 1.15
2-20s to 2-26s, ¼ bld. (46-48s)	1.20 – 1.25
2-26s to 2-30s, ¼ bld. (48s)	1.30 – 1.35
2-30s to 2-32s, ¼ bld. S. A. (46s)	1.30 – 1.35
2-32s, ¼ bld. (48-50s)	1.37½– 1.42½
2-20s, ¾ bld. (56s)	1.42½– 1.45
2-26s, ¾ bld. (56s)	1.47½– 1.50
2-36s, ¾ bld. (56s)	1.57½– 1.60
2-32s, ½ bld. (60s)	1.65 – 1.67½
2-36s, ½ bld. (60s)	1.70 – 1.72½
2-40s, ½ bld. (60s)	1.75 – 1.77½
2-50s, high ½ bld. (64s)	1.85 – 1.87½
2-50s, fine, (66—70s)	1.92½– 1.95
2-60s, fine, (70s)	2.30 – 2.35

FRENCH SYSTEM

20s, high, ¼ bld. (50s)	$1.40– $1.45
20s, ¾ bld. (56s)	1.47½– 1.50
26s, ¾ bld. (56s)	1.50 – 1.52½
30s, ½ bld. (60s)	1.57½– 1.60
30s, fine warp (66-70s)	1.75 – 1.77½
40s, ½ bld. (60-44s)	1.70 – 1.72½
50s, (66-70s)	1.87½– 1.90
60s, (70s)	2.20 – 2.25

KNITTING YARNS IN OIL (BRADFORD)

2-20s, low, ¼ bld (44s)	–$1.10
2-18s to 2-20s, ¼ bld. (50s)	– 1.25
2-26s, ¼ bld. (50s)	– 1.31
2-30s, ¼ bld. (50s)	– 1.35
2-20s, ¾ bld. (56s)	– 1.40
2-20s, ½ bld. (60s)	$1.60 – $.62½

FRENCH SPUN MERINO WHITE

40s, 50-50-64s	$1.35 –$1.37½
40s, 60-40-64s	1.44 – 1.46
40s, 70-30-64s	1.53 – 1.55
40s, 80-20-64s	1.62 – 1.65

◆

Tops and Noils

TOPS—BOSTON

Fine (64-66s)	$1.10 –$1.12
Half-blood (60-62s)	1.08 – 1.10
High ¾ blood (58s)	1.05 – 1.08
Aver. ¾ blood (56s)	1.03 – 1.05
Low ¾ blood	.98 – 1.00
High ½ blood (50s)	.95 – .97
48s N. Z.	.93 – .95
46s S. A. and N. Z.	.90 – .93
44s S. A. and N. Z.	.85 – .87
40s S. A. and N. Z.	.83 – .85
36s S. A. and N. Z.	.82 – .83

TOPS—BRADFORD, ENG. (DEC. 12.)

Fine (70s)	36d	¾ bld. (56s)	26d
Fine (64s)	32½d	½ bld. (50s)	22d
¾ bld. (60s)	30d	Cross-bred (46s)	19d
¼ bld. low (58s)	28½d		

NOILS—BOSTON

Fine	$0.53–$0.58	Low ¾ bld	$0.47–$0.50
Half-bld	.53– .55	High ½ bld	.45– .47
High ¾ bld	.50– .53	46s	.43– .45
Aver. ¾ bld	.48– .50	44s	.42– .43

Wool Substitutes

WOOL WASTE

Lap, fine white	$0.83 –$0.85
Lap, fine colored	.73 – .75
Thread White Worsted, fine	.65 – .68
Thread White Worsted, ½ blood	.48 – .50
Thread Colored Worsted, fine two-ply	.43 – .45
Thread Colored Worsted, ½ bld., two-ply	.30 – .33
Card, fine White	.42 – .45
Card, Medium White	.27 – .30

OLD WOOLEN RAGS (GRADED FOR MFRS.)

Merinos, Coarse Light	$0.06 –$0.07
Merinos, Fine Dark	.05 – .05½
Merinos, Fine Light	.16 – .17
Serges, Blue	.09 – .09½
Serges, Black	.08 – .08½
Serges, Red	.11 – .12
Knit, White	.34 – .35
Knit, Red	.18 – .19
Knit, Light Hoods	.17 – .18
Worsted, Lights	.06 – .07
Worsted, Blues	.10 – .10½
Worsted, Blacks	.09 – .10

Silk Yarns

THROWN SILK (60 day basis)

Japan organsine, 2 thd. grand XX in skeins	$6.10
Japan organsine, 2 thd. sp. crack in skeins	5.95
Japan crepe, 3 thd. grand XX in bobbins	6.25
Japan crepe, 3 thd. sp. crack on bobbins	5.95
Japan crepe, 4 thd. crack on bobbins	5.85
Canton crepe, 3 & 4 thd. ns. 14/16 on bobbins	4.40
Tussah tram, 2 end on cops	2.55
Hosiery tram, 3 thd. Japan XXX	6.50
Hosiery tram, 5 thd. Japan G XX	5.80
Hosiery tram, sp. crack XX	5.55
Hosiery tram, crack XX	5.40
Hosiery tram, XX	5.35

SPUN SILK YARNS—(Terms: net 30)

40/2	$4.25	60/2	$4.55
50/2	4.40	62/1	3.50

Raw Silk

(60 day basis)

Japan filature, grand XX, 13/15	$5.05
Japan filature, sp. crack XX, 13/15	4.90
Japan filature, crack XX, 13/15	4.75
Japan filature, XX, 13/15	4.65
Japan filature, best X, 13/15	4.55
Japan filature, X, 13/15	4.50
Canton filature, new style, 14/16	3.10
Canton filature, new style 20/22	4.95
Tussah filature, 8 cocoon	1.85
Grand XX (Yellow) 20/22	4.75
Grand XX (White) 20/22	4.70
Sp. crack (Yellow 20/22	4.70
Sp. crack (White) 20/22	4.65
Crack (Yellow) 20/22	4.65
Crack (White) 20/22	4.60

NATIONAL RAW SILK EXCHANGE

	Close Dec. 11	For the Week High	Low	Close Dec. 17	Net Chg.
December	4.50	4.50	4.35	4.43	—.07
January	4.50	4.52	4.42	4.43	—.07
February	4.50	4.52	4.42	4.45	—.05
March	4.50	4.52	4.42	4.45	—.05
April	4.50	4.53	4.39	4.45	—.05
May	4.48	4.50	4.38	4.45	—.03
June	4.49	4.50	4.38	4.43	—.06
July	4.48	4.48	4.38	4.43	—.05

Dec. 11 to Dec. 17—Total contracts 802.
Total number of bales 8,020. Total approximate value, $4,812,000.

Domestic Rayon

VISCOSE PROCESS

Denier	Filament	First Quality	Second Quality
75	f8	$2.35	$1.65
75	30	2.45	1.75
100	18	1.95	1.60
100	40	2.00	1.65
125	18	1.45	1.25
125	36	1.50	1.30
150	24–34	1.15	1.10
150	36	1.20	1.15
150	60	1.35	1.30
150	75	1.50	....
170	24–27	1.15	1.10
170	60	1.35	1.30
200	30	1.10	1.05
200	60	1.30	1.25
300	40–60	1.00	.95
400	72	1.10	.95
450	54	1.00	.95
600	72–96	1.00	.95
900	100–144	1.00	.95

NITRO-CELLULOSE PROCESS

Denier	First Qual.	Second Qual.	Denier	First Qual.	Second Qual.
35	$3.50	$3.25	125	$1.45	$1.25
50	2.75	2.50	140	1.15	1.10
75	2.35	1.65	150	1.15	1.10
100	1.95	1.60	160	1.15	1.10
			175	1.15	1.10

CUPRAMMONIUM PROCESS

Denier	Filament	Price	Denier	Filament	Price
15	25	$4.15	40	30	$3.15
25	25	3.65	52	30	3.00
30	25	3.40			

[Due to diversified offerings prices for higher deniers are not listed.]

ACETATE PROCESS

Denier	Price	Denier	Price
45	$3.00	120	$2.30
55	3.00	150	1.90
75	2.55	200	1.90
100	2.40	300	2.20

Rayon Waste

Open bleached waste	$0.32–$0.35
Open unbleached waste	.30 – .32
Bleached thread waste (mfrs.)	.20 – .22
Colored thread waste	.08 – .10
Colored clips	.... .12

CONVERTED RAYON WASTE

Bleached tops	$0.59 –$0.60
Unbleached tops	.51 – .52
Bleached noils	.... .22
Bleached garnets	.23 – .25
Unbleached garnets	.21 – .23
Colored garnets	.16 – .20

◆

Want Cotton Content Specified in Hosiery

Recommendation that manufacturers of silk hosiery with cotton heels, toes or tops, specify the cotton content thereof, "in justice to makers of actually all-silk hosiery," has been made by the National Better Business Bureau, Inc.

The Bureau's statement, which has been mailed to all hosiery manufacturers, is in full, as follows:

"The Bureau's attention has just been called to the fact that hosiery retailers in a number of cities have advertised hosiery as 'All-Silk,' or as 'Silk from Top to Toe,' when the hosiery offered was made in part of cotton.

"The National Better Business Bureau recognizes that if the foot and leg of a stocking are made exclusively of silk, the public gets what in effect is a silk stocking. However, inasmuch as some hosiery is made entirely of silk, with no other fibers, we believe that the use of the term 'Silk,' or 'All-Silk,' or 'Silk from Top to Toe' should be confined to hosiery which is in fact made exclusively of silk.

"In advertising silk hosiery which has cotton toes, heels and tops, or which is reinforced with cotton in the toes, heels and tops, the Bureau recommends that these features should always be stated.

"We feel that this is fair to all manufacturers and that it is fair to the public.

"If any manufacturers disapprove of this recommendation and are unwilling to apply it to their advertising, we would appreciate hearing from them."

Outerwear Ass'n Sees Good Outlook for 1930

The National Knitted Outerwear Association was represented at the industrial conference, held recently by the United States Chamber of Commerce at Washington, on the instance of President Hoover. O. W. Fishel, president of the association and J. J. Phoenix, and E. B. Gordon, executive secretary attended. On behalf of the association, they submitted the following report for the outerwear industry:

"In a general way, the first six months of 1929 in knitted outerwear proved fair for sweaters, very good for bathing suits, and good in our other items.

"The 1930 outlook for the first six months is that sweaters will be good, bathing suits excellent, and other lines good. In other words, the next six months from every indication should prove slightly better than the first half of 1929.

"Our 1930 lines of merchandise have just been presented to the trade, although bathing suits have been out for three months. Some of the 1930 bathing suit lines are already so well ordered up that they have been withdrawn, and the interest in bathing suits justifies optimism. At the present time our mills are operating, generally speaking, steadily and at normal pace for this between-seasons period.

"On the other hand, we cannot overlook the fact that our merchandise generally is subject to special interest immediately following some emergency, when recessions come about. We think the next four months will justify the optimism which governs both manufacturers and buyers at present.

"There is apparent among buyers a decided inclination to put on abnormal downward price pressure, taking full advantage of the psychology of the moment, but which we trust will not be sufficiently serious to enforce any question of wages."

Philadelphia's Textile Center May Be Bought by Gov't.

PHILADELPHIA.—A bill has been introduced in the House of Representatives by Representative Ransley providing an appropriation of $5,000,000 for the erection of a new customs building. Mr. Ransley said that he was prepared to suggest a site running from Front to Second Sts., and from Chestnut to Ionic Sts.

This announcement is of particular interest to the textile trade because it is in this block on Chestnut street that a large number of the leading wool, worsted yarn and cotton yarn distributing concerns have been located for more than 50 years and if this bill is enacted by Congress it means that the retail textile center of Philadelphia, will almost in a body be forced into a new location.

In this city block are located such concerns as Chas. J. Webb & Sons Co., Inc., largest wool house of the city; Jas. E. Mitchell & Sons, cotton and rayon yarns; Wm. H. Grundy & Co., Inc.; I. Reifsnyder & Sons; Warren Moore; C. A. Boyce & Co.; Wm. G. Pancoast; C. E. Doan & Co.; Francis Willey & Co.; John J. McCloskey; Percy Legge, worsted and woolen yarns, and many others, several of the tenant buildings in this block having more than a dozen textile concerns housed in it. Discussion is heard of plans for a textile building where these and other forms may be housed under one roof.

Cotton Exchange Delays Listing of Mill Stocks

Members of the New York Cotton Exchange were advised on Dec. 13, that owing to the unsettlement in the stock market, the inauguration of trading in cotton mill and other allied securities on the exchange would be deferred for the time being. The statement issued by the committee on securities, of which John H. McFadden, Jr., is chairman, which was posted on the bulletin board, read as follows:

"The members are advised that at its last meeting the securities committee concluded that in view of the recent general unsettlement in the stock market, the inauguration of trading securities on the New York Cotton Exchange was inadvisable at this immediate time. The committee therefore decided to hold the matter in abeyance for the present."

Revised Silk Throwing Rules Adopted

Revised thrown silk and commission throwing rules were approved by the board of managers of the Silk Association of America, Inc., at a recent quarterly meeting.

The chief revision in the thrown silk and commission throwing rules, approved yesterday, is the introduction of the dry clean fiber content test for determining quantity of thrown silk. In the past this fiber content has been determined by conditioned weight and boil-off.

M. I. T. Course in Textile Research to Be Repeated

The course in textile testing and research recently established at the Massachusetts Institute of Technology, Cambridge, Mass. (see TEXTILE WORLD, Nov. 23, p. 97) has proved remarkably successful. More applications than could be taken care of were received for the first group, and it is therefore planned to repeat the work after the first session ends, which will be in the latter part of January or early in February. Several reservations have already been made for the second session, and mills desiring to place men in this group should send applications immediately to the attention of Professor George B. Haven, or Assistant Professor Edward R. Schwarz.

Specifications for Knitting Machine Oil Lubricant

The National Association of Hosiery and Underwear Manufacturers has announced that a recent test of 39 submitted samples revealed the following tentative specifications for white stainless mineral oil lubricant for all knitting machines: (a) Viscosity at 100° F.—Not less than 75 nor more than 100. (b) Flash point—Not less than 300° F. (c) Color—Must pass the latest edition pharmacopoeia specification. (d) Corrosion test—A clean copper strip shall not be discolored when submerged in the oil for 3 hours at 212° F. (e) The neutralization number shall not exceed 0.10. (f) Acid test—Pour 10 c.c. of the oil into a test tube. Add 5 c.c. C.P. sulphuric acid, 1.84 specific gravity. The liquids shall remain colorless.

Changes in Naumkeag

William D. Phillips, who has been connected with Naumkeag Mills, Salem, Mass., for more than 40 years and has been superintendent of the plant since 1913, has resigned on account of continued ill health. Robert J. McConnell, assistant superintendent since 1928, has been appointed superintendent of the spinning. Norman T. Thomas, formerly agent of Utica, N. Y., Steam Cotton Co., has been appointed superintendent of weaving, and Howard A. Arey, plant engineer since 1909, has been made superintendent of maintenance. All of the changes became effective Dec. 16.

Hosiery Guild, Inc. New Name of Group

Hosiery Guild, Inc., replaced the title "Spiral Knit Hosiery Guild," when the executive committee of the newly organized circular knit hosiery group met at their headquarters in New York on Wednesday.

Harry L. Kinne, who was appointed managing director, stated after the session, that a hallmark for the guild's product had been decided upon, but that details would be withheld until a later date.

Names of the manufacturers who will serve on the executive and specifications committees of the Guild follow. The executive committee is comprised of J. Harvey Wilson, Richmond Hosiery Mills, Rossville, Ga.; Fred Westcott, Westcott Hosiery Mills, Dalton, Ga.; H. E. Katzenmoyer, Fisher Hosiery Co., Reading, Pa.; F. Y. Kitzmiller, F. Y. Kitzmiller Hosiery Co., Reading, Pa., and Mr. Galbraith.

Synthetic Chemical Manufacturers Re-elect Officers

The following officers and members of the board of governors of the Synthetic Organic Chemical Mfrs. Association of the United States were elected at the Eighth Annual Meeting of the Association, held at the Hotel Commodore, New York, on Dec. 13: President, August Merz, of Holler & Merz Co., re-elected; Treasurer, Albert J. Farmer, of Pharma-Chemical Corp., re-elected; Secretary, C. A. Mace, re-elected.

Morton H. Meinhard & Co. Incorporates on Jan. 1

Morton H. Meinhard & Co., New York, are incorporating their business effective as of Jan. 1, 1930, the corporation succeeding the present co-partnership. The present management and personnel will remain unchanged and there will be no public financing, all of the stock being held by the men who have long been identified with the firm.

Morton H. Meinhard & Co. were founded in 1898 as sales agents of various woolen and worsted mills; acting as agents for the Cleveland Worsted Mills Co. for twenty-five years. Their factoring business was established in 1908. In 1923 the firm severed the last of its sales connections in order to concentrate on factoring.

The authorized capital of the new corporation will be $3,500,000. The officers will be: President, Morton H. Meinhard; vice-president and treasurer, Edward F. Addiss; secretary, Fred Meissner; assistant secretary, Philip Osborn; assistant secretary, H. Clifford Steffens; assistant secretary, Harry Delaney. There will be no change in policy as the present management continues intact.

Army Wants Khaki Cotton Cloth

PHILADELPHIA — Depot Quartermaster, U. S. Army will receive bids Dec. 30 to supply them with 181,728 yds., 28 in. khaki cotton cloth to be used for uniforms, conforming with tentative specifications bearing date of Oct. 29, 1929.

TEXTILE CALENDAR

Golden Fleece Fabric and Fashion Review, Ritz Carlton Hotel, New York, week of Jan. 6, 1930.

•

Silk Association of America, 58th Annual Dinner, Hotel Astor, New York City, Jan. 16, 1930.

•

International Exposition, Textile Exhibitors Association, Mechanics Building, Boston, Mass., April 28-May 3, 1930.

•

Knitting Arts Exhibition, Commercial Museum, Philadelphia. May 12-16, 1930.

•

National Association of Hosiery and Underwear Manufacturers, Annual Meeting, Philadelphia, May 14, 1930.

•

National Knitted Outerwear Association, Annual Meeting, Toronto, Canada, June, 1930. (Exact date not yet set.)

•

Ninth Southern Textile Exposition, Textile Hall, Greenville, S. C., Oct. 20-25, 1930.

Army Places Large Denim Contracts

PHILADELPHIA.—Contracts to supply the Quartermaster Depot with 1,553,513 yds., blue denim have been awarded to the following: Ridley Watts & Co., New York, 400,000 yds., at 15.25c., less 3% ten days; 775,000 yds., Everwear Mfg. Co., New York, 14.684c. per yd., and 378,513 yds., to the Batavia Mills, Inc., New York, 15.04c., net.

The depot will receive bids Jan. 2, 1930, to furnish them with 150,608 yds., unbleached cotton sheeting, 63 in. wide, conforming to specifications 6-114A.

Chemists Hear About Rubberizing

The Rhode Island Section of the American Association of Textile Chemists and Colorists, met Friday evening, Dec. 20, at Providence Engineering Society, in Providence. Dr. Donald H. Powers chief chemist of the United States Finishing Co., spoke on "Rubber, and its Application to Textiles." A. Newton Graves, Franklin Process Co., Providence, R. I., is secretary.

Celanese Staple Fiber Expansion

British Celanese has established an experimental plant at Spondon, England, for the production of staple fiber to meet the increased demand for rayon waste and staple fibers on the part of manufacturers and the hosiery industry. Most of the staple fiber available is of the viscose type, and it is expected that the peculiar properties of a Celanese staple will offer some particular advantages.

Ala.-Miss.-La. Division of S.T.A. to Meet in January

The next meeting of the Alabama-Mississippi-Louisiana divison of the Southern Textile Association will be held the latter part of January, according to a recent statement from officials of that organization. The date and place of the meeting will be announced in the near future.

Stein Leaves Wool Business

Herman F. Stein, formerly located at 121 S. Front St., Philadelphia, has become associated with the bond house, Montgomery Scott & Co., at their Philadelphia office.

Brown Leaves Philadelphia Wool Trade

Frederick H. Brown, prominently identified with Philadelphia wool trade for many years has been connected with the investment banking house, Detwiler & Co., the concern of Akeroyd, Brown & Co., having closed their Philadelphia office.

Ulrich Makes New Connection

John L. C. Ulrich, Philadelphia representative of the Pacific Co-operative Wool Growers, has severed his connection with this group and has become associated with brokerage firm of Samuel McCreery & Co.

New Philadelphia Wool Concern

Harry F. Kindermann has opened offices at 46 S. Front St., Philadelphia, dealing in wool and waste. He is local representative for Thos. A. Wood, Buenos Aires, and Maurice Lobsitz, New York.

Hoffman Moves to New Offices

S. C. Hoffman, Philadelphia, located in the Mariner & Merchants Bldg., Third and Chestnut Sts., for many years, will move to new and larger quarters Jan. 1, after that date being in Room 672, Drexel Bldg., Fifth and Chestnut Sts.

Salembier & Clay, Inc., Changes Hands

It is announced that Robert R. Salembier, for the last 15 years president of Salembier & Clay, Inc., has withdrawn from active participation in the firm's affairs to join the Belding Heminway Co., where he will do special work in connection with the company's plans for extended sales activities to the cutting-up trade.

With this development it is also learned that the entire business of Salembier & Clay, Inc., has been purchased by A. C. Stapfer and associates, the name being changed from Salembier & Clay to the Central Falls Silk Co.

The New York office will be retained, it is understood.

Range Finishing Discussed

(Continued from page 35)

type, superimposed upon a main regulating device which controls the range as a whole.

Direct-current adjustable-speed ranges are of two types: (A) Constant voltage, using specially designed but now standard motors, with field and armature control, and (B) multivoltage, including the Ward Leonard with standard motors. The former or direct-current variable-speed equipment of the constant-voltage type is very highly developed, and is thoroughly reliable.

As to multivoltage direct-current systems, the Ward Leonard is at present its principal exponent. It utilizes the common, standard, direct-current, shunt-wound, constant-speed motor, but requires, however, an individual direct-current generator for each range, the speed regulation of motors supplied from this generator being obtained by field rheostatic control of the generator, that is, of the impressed voltage itself. Additional vernier rheostats are furnished with the individual motors to obtain, through dancer-roll equipment, the necessary automatic adjustment of synchronism.

This system is also highly developed, its particular field being plants having only a few ranges requiring but a slight amount of direct current. The control wiring is the simplest of all systems. A further recent and comparatively expensive development for automatic control without the use of dancer rolls is known as the differential regulator or rotary field rheostat. This has been used in paper-mill ranges and for pile fabric which latter would be damaged by dancer rolls. It consists of a continuously adjustable rotary field rheostat driven by a synchronous motor, and mechanically operated by the differential movement of a screw and nut, both of which operate continuously in the same direction, the nut forming a part of the rheostat cylinder, and the screw being driven directly from the section motor.

With machines or groups driven from constant-speed sources, it, of course, makes no difference whether these sources are mechanically driven or motor-driven shafts. In either event, the individual groups may be synchronized by means of mechanical speed changers based on various principles, including the use of such well-known devices as expanding pulleys, cone pulleys, variators, and more recently the fluid motor known otherwise as the "oil gear" or "hydraulic variable-speed transmission." The latter type of transmission is comparatively expensive, but has been quite highly developed and very successfully used in the paper-making and in the tire and rubber industries. It does not seem as yet to have been adopted widely in finishing plants.

At the present time the mechanical variator is quite extensively used for converting constant speed to adjustable speed. It operates on the principle of varying pulley diameters, and was first developed for manual control only. It is a competitive device, now highly developed, and used in range drives for the automatic synchronization of various groups. This is accomplished usually through the familiar medium of a dancer roll which operates on the variator directly and mechanically, or which, instead, may actuate the variator through a reversible pilot motor.

Variators have the advantage of being applicable to all types of constant-speed drives, whether motor or mechanically driven. In late years they have been much improved as to general design, including space requirements, and maintenance expense. They are, moreover, subject to somewhat less power, losses than for direct current obtained by conversion, especially at slow speeds.

The direct-current constant-voltage motor is inherently a constant-horsepower motor, whereas the Ward Leonard and adjustable-speed alternating-current motors are constant-torque motors, a reduction in speed causing a corresponding reduction in horsepower.

Small adjustable-speed steam engines in range seem to be infrequently used on account, no doubt, of trouble from oil, dirt, etc. Speed control and synchronizing may be accomplished, however, by manual or automatic control of steam supply through the medium of a dancer roll, as for other types of adjustable-speed equipment.

Perhaps it is fair to consider the field of steam engines in range drives limited to moist places unsuited for electrical control equipment, and where exhaust steam may be used for nearby process work.

◆

Textile Patents

ARTIFICIAL threads, Manufacture and production of. 1,739,458. E. Hazely and E. A. Morton, Coventry, England. Assigned to Courtaulds Limited, London England.

AXMINSTER tube-frame supports, Guide for. 1,739,170. A. P. Paine, Worcester, Mass. Assigned to Crompton & Knowles Loom Works, Worcester, Mass.

AXMINSTER-WEAVE. 1,739,181. W. W. Robertson, Worcester, Mass. Assigned to Crompton & Knowles Loom Works, Worcester, Mass.

BOBBIN for weft-replenishing looms. 1,739,187. R. G. Turner, Worcester, Mass. Assigned to Crompton & Knowles Loom Works, Worcester, Mass.

BOBBIN-RELEASE for weft replenishing mechanism. 1,739,209. A. J. Chevrette, Worcester, Mass. Assigned to Crompton & Knowles Loom Works, Worcester, Mass.

BOBBIN support, Adjustable. 1,738,813. W. T. Barratt, Bennington, Vt. Assigned to Charles Cooper Co., Bennington, Vt.

CELLULOSE-ACETATE rayon, Process for dyeing. 1,738,660. R. Metzgar, Heidelberg, Germany. Assigned to General Aniline Works, Inc., New York.

CELLULOSE, Dyeing of organic derivatives of. 1,738,978. W. Whitehead, Cumberland, Md. Assigned to Celanese Corp. of America, Cumberland, Md.

CELLULOSE, Process for fireproofing. 1,738,976. F. Vivas, Los Angeles, Calif. Assigned to International Fireproof Products Corp., New York.

CLOTH expander. 1,738,700. H. Hadwin, Glossop, England.

FABRICS, Apparatus for treating. 1,738,947. E. S. Chapin, Plainfield, N. J., and A. H. Jacoby, Ashby, Mass. Assigned to the Deltex Co.

FABRIC-MEASURING and cost computing machine. 1,738,546. J. L. Wheeler, St. Louis, Mo. Assigned to the Measuregraph Company, St. Louis, Mo.

FABRICS, Process for treating. 1,738,946. E. S. Chapin, Plainfield, N. J., and A. H. Jacoby, Ashby, Mass. Assigned to the Deltex Co.

FIBROUS articles, Method and apparatus for saturating. 1,738,794. H. Parker, Berlin, N. H. Assigned to Brown Co., Berlin, N. H.

JACK-SINKER of special shape for knitting frames. 1,738,851. F. Tanscher, Oberlungwitz, Germany.

LOOMS, Attachment for multicolor-weft-replenishing. 1,739,164. H. L. Molloy and C. Belisle, Manchester, N. H. Assigned to Crompton & Knowles Loom Works, Worcester, Mass.

LOOM dobby mechanism. 1,739,194. W. M. Wattie, Worcester, Mass. Assigned to Crompton & Knowles Loom Works, Worcester, Mass.

LOOMS, Filling stop motion for. 1,739,184. J. W. Simpson, Anderson, S. C. Assigned to Crompton & Knowles Loom Works, Worcester, Mass.

LOOM for weaving terry fabrics of different heights. 1,739,205. H. L. Blanchard, Millbury, Mass. Assigned to Crompton & Knowles Loom Works, Worcester, Mass.

LOOMS, Head motion for. 1,739,189. K. J. Unwin and W. H. Wakefield, Worcester, Mass. Assigned to Crompton & Knowles Loom Works, Worcester, Mass.

LOOM, Multicolor weft replenishing. 1,739,190. K. J. Unwin and W. H. Wakefield, Worcester, Mass. Assigned to Crompton & Knowles Loom Works, Worcester, Mass.

LOOMS, Needle motion for. 1,739,171. A. P. Paine, Worcester, Mass. Assigned to Crompton & Knowles Loom Works, Worcester, Mass.

LOOMS, Tube-frame-supporting chain for. 1,739,169. A. P. Paine, Worcester, Mass. Assigned to Crompton & Knowles Loom Works, Worcester, Mass.

LOOMS, Weft-replenishing mechanism. 1,739,225. A. A. Gordon, Worcester, Mass. Assigned to Crompton & Knowles Loom Works, Worcester, Mass.

LOOMS, Let-off for. 1,739,232. E. R. Holmes, Worcester, Mass. Assigned to Crompton & Knowles Loom Works, Worcester, Mass.

MANTLE steaming and air cooling machine. 1,738,837. E. H. Marble, Worcester, Mass. Assigned to Curtis and Marble Machine Co., Worcester, Mass.

PILE-FACED material and process for making same. 1,739,322. F. W. Moore, East Orange, N. J.

PRINTING machine, Combined color and flock. 1,739,264. G. Simpson, Paterson, N. J.

TENTER clip. 1,739,071. J. J. Hoey, Providence, R. I.

Business News

U. S. Bobbin & Shuttle Co. Centralizes Its Activities

To effect a more complete contralization of manufacturing, sales and distribution, the U. S. Bobbin & Shuttle Co. has moved its executive and sales offices from Providence, R. I., to Manchester, N. H. The general offices of the eastern division of the U. S. Bobbin & Shuttle Co. have been installed in Manchester for the last two months. The change comes as a carefully planned move to give added strength to the entire organization and an increased capacity for immediate and proficient service to textile men.

Manchester, N. H., has for years been the home of one of the veteran plants of the U. S. Bobbin & Shuttle Co. The move of its headquarters to Manchester, therefore, effects a centralization of the system which brings the entire organization into more intimate accord. Goffstown, N. H., with its modern U. S. bobbin plant is now only eight miles from the executive and sales headquarters. Lawrence and Lowell, Mass., where the U. S. shuttle, bobbin, and spool departments are located is brought into closer contact with the executive offices and the respective sales manufacturing and distributing units.

This action follows closely the recently announced merger of the Jordan Mfg. Co. with the U. S. Bobbin & Shuttle Co. It is the second big stride in the direction of a more comprehensive service for firm's customers.

Universal Bearing Metals Corp. Buys Bearium Bearings

The Universal Bearing Metals Corp. has bought all the assets, processes, patents, copyrights, patterns, goodwill, etc., of Bearium Bearings, Inc., and will continue without interruption to supply Bearium bronze and Bearium alloys as heretofore. The operation and sales force of Bearium Bearings, Inc., is being kept intact by the Universal Bearing Metals Corp., and no change is contemplated in the product nor the sales policies.

Universal Bearing Metals Corp. is a privately owned corporation, the largest stockholders being: H. M. Rees of Boston, Howard Coonley of Boston, C. F. Wray of Rochester and Delos Wray of Rochester. The board of directors consists of Howard Coonley, H. M. Rees and E. P. Langworthy of Buffalo, N. Y. E. P. Langworthy is president and treasurer and H. M. Rees is vice-president and secretary.

Eavenson & Levering Co., Issue Unique Booklet

Eavenson & Levering Co., Camden, N. J., scourers, carbonizers, etc., of wool, have recently published a small booklet entitled "Making the Grade with Wool," which they are distributing to the trade. In it they state their purpose of distribution is to demonstrate and emphasize confidence in the present and hope for the future of the wool industry in the United States; to foster a spirit of co-operation among the various units of the trade and to present policies of their own concern. The booklet states that they feel no other article of commerce presents greater possibilities for weaving about it a more successful promotional campaign that can be woven around the subject of wool. Eavenson & Levering assert that, "We believe in the future of the woolen industry through the co-operation of growers, merchants, manufacturers and distributors." It is their intention to issue future editions of "Making the Grade with Wool" from time to time.

Offers to Do Discharge Printing on Celanese

A distinct and important technical advance in the printing and dyeing of fabrics made entirely of or containing Celanese yarn has been announced by the Lyons Piece Dye Works, of Paterson, N. J.

It is now ready to quote commercially on discharge printing of all-Celanese fabrics and mixtures of Celanese and rayon and Celanese and cotton. On the all-Celanese group, Lyons is ready to quote on white discharges on grounds of black, navy, brown and red. In the mixtures, white and any color patterns may be discharged on any color ground.

To Reopen Mitscherling Research Laboratories

Dr. W. O. Mitscherling has sold his interest in the Max Ams Chemical Engineering Corp., Bridgeport, Conn., and resigned as vice-president and director, as his duties as vice-president and chemical director of the A. M. Johnson Rayon Mills, Inc., Burlington, N. C., take most of his time. However Dr. Mitscherling is planning to reopen the Mitscherling Research Laboratories in Bridgeport, Conn., early in 1930.

Kaumagraph Appoints Chattanooga Representative

Kaumagraph Co., New York, manufacturers of Kaumagraph trademark transfers, Kaumagraph lithography and Kaumagraph embossed seals, has placed D. O. Blevins in charge of the Chattanooga district. From headquarters in the Provident Building, Mr. Blevins will continue Kaumagraph's policy of rendering personal service on matters of trademarking and lithographing to mills and jobbers in that locality.

Bachmann Bros. Erect New Plant

Bachmann Brothers, Inc., celluloid sheeting, Philadelphia, have awarded a contract for a new factory, located at Erie Avenue and M Street, which will cost approximately, when completed, $250,000. Growing requirements of the company's business necessitate an enlarged productive capacity and the introduction of improved and up-to-date advantages and facilities.

C. J. Tagliabue Mfg. Co. Opens Shreveport Branch Factory

C. J. Tagliabue Mfg. Co., Brooklyn, N. Y., makers of industrial instruments will open on Jan. 1, 1930, a branch factory at 417 Lake Street, Shreveport, La. This development has come about through the desire of Tagliabue to provide the users of Tag instruments in Texas, Oklahoma, Kansas, Missouri, Arkansas, Mississippi, Tennessee, Louisiana and Alabama with the utmost in quick service.

The prime function of the new factory will be repair work, with special attention to emergency orders. The repair facilities of the main factory in Brooklyn have been nearly duplicated in special equipment, trained personnel and in all other respects, except that of size.

In addition to repair facilities there will be maintained stocks of all standard instruments. The Shreveport factory is in charge of C. L. Huffman, district manager.

Obituary

Frank E. Ewing

Frank E. Ewing, former president of the Sherman Textile Co., Worcester, Mass., died in the French Hospital, New York, on Dec. 11, after a short illness. Before going to the Worcester company he was for five years president of the Dennison Mfg. Co., South Framingham, Mass., with which he was identified for 40 years. He retired in 1917 and about three years ago became head of the Sherman Textile Co., with which his son, Frank K. Ewing, treasurer, sales manager and purchasing agent, has been associated for nearly a decade. Mr. Ewing was born in Iowa in 1861.

Maurice A. Oudin

Maurice A. Oudin, vice-president of the International General Electric Co., Schenectady, N. Y., died at his home following a brief illness. After being graduated from Princeton University in 1891 with the degree of Master of Science he joined the Thomson-Houston Electric Co. at Lynn, which was later absorbed by the General Electric Co. In 1904 he became manager of the foreign department. When the International General Electric Co. was formed in 1919 he was chosen vice-president.

Frank Mansell Saunders

Frank Mansell Saunders, purchasing agent for the Graton & Knight Co., Worcester, Mass., with which he had been identified for the last 13 years, died at his home in that city on Dec. 8, in his 57th year. Before going to the Worcester company Mr. Saunders was with the B. & R. Rubber Co., North Brookfield, Mass., for eight years. He was a member of the masonic fraternity, a former president of the Worcester County Purchasing Agents Association, and a member of various other organizations.

William H. Morgan

William H. Morgan, for about 40 years overseer of the carding department of the No. 1 mill of the Otis Co., Ware Mass., until his retirement three years ago, died at his home in that town on Dec. 10, after a long illness. He was with the Otis Co. for 59 years. Mr. Morgan was 79 years old and a native of Bondsville, Mass., but lived most of his life in Ware.

John B. Morgan

John B. Morgan, former chief engineer of the South Webster (Mass.) Mills of S. Slater & Sons, Inc., now operated by the American Woolen Co., died at his home in that town on Dec. 5. He was a member of the masonic fraternity. Burial was in Danielson, Conn.

A. M. Witherspoon

A. M. Witherspoon, aged 74, for the last 23 years yard superintendent of the Kesler Mills, Salisbury, N. C., died Dec. 1. He is survived by his wife, three sons and two daughters.

John B. Gane

John B. Gane, formerly chief engineer for the Boston Duck Co., Bondsville, Mass., died in Wing Memorial Hospital, Palmer, Dec. 12. He had been in ill health for several months and gave up his position in the mill early in the fall.

COTTON PRODUCTS COMPANY

Fidelity Philadelphia Trust Building, Philadelphia

Selling Agents for:

ROWAN COTTON MILLS
A. M. SMYRE MANUFACTURING CO.
FRANKLIN RAYON CORPORATION
OSCAR HEINEMAN CORPORATION
THE ELMORE CORPORATION

Also Representing Exclusively—Ten Southern Mills, Spinning High Grade Warps for Mercerizing.

BRANCH OFFICES

51 Arlington St. Pawtucket, R. I.	418 So. Franklin St. Reading, Pa.	James Building Chattanooga, Tenn.	432 Fourth Ave. New York City
Adams Franklin Building Chicago	Greensboro Bank Building Greensboro, N. C.	Westaway Building Hamilton, Ont.	1st National Bank Bldg. Amsterdam, N. Y.

FINE COMBED COTTON YARNS

for

Threads, Silk Weaving, Velvets and Specialties

American or Sakellarides Cotton

NONQUITT MILLS

NONQUITT MILLS
New Bedford, Mass.

WILLIAM WHITMAN COMPANY, INC.

Selling Agents

261 FIFTH AVENUE, NEW YORK
BOSTON · PHILADELPHIA · CHICAGO · CHARLOTTE

J. H. SEPARK, Sec'y and Treas. — J. L. GRAY, Vice-Pres. and Gen. Mgr.

Arlington Cotton Mills
Myrtle Mills, Inc.
Arkray Mills, Inc.
Gray Manufacturing Co.
Flint Manufacturing Co.

Gastonia, North Carolina

Spinners of Fine

Cotton Yarns

Gassed and Ungassed Combed Peeler
Double Carded Peeler
in sizes 26s to 120s—single and ply for
CONVERTING—KNITTING—WEAVING
and ELECTRICAL USAGE
and 24s to 100s—2, 3 and 4 ply for
THREAD PURPOSES

We are using weavers knots throughout our process of manufacture both in single and ply yarns.

H. A. Florsheim

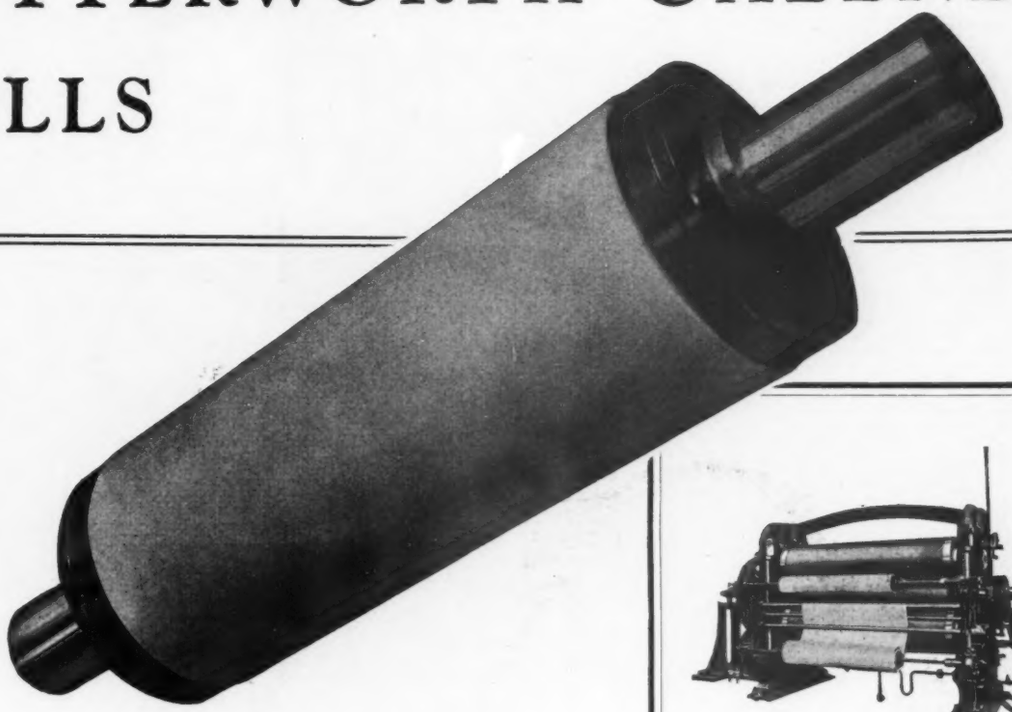
General Sales Manager

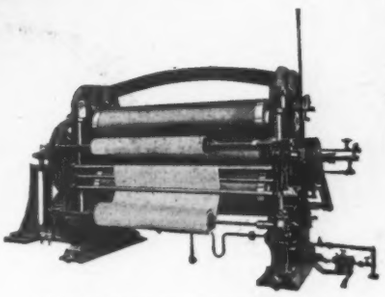
225 Fifth Ave., New York City

BRANCHES
Boston Gastonia Philadelphia Chicago

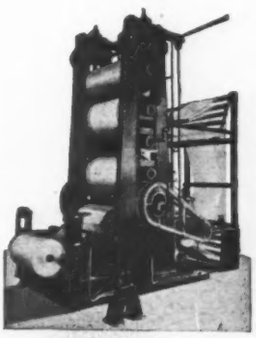
WE REFILL CALENDER ROLLS WITH THE SAME HIGH GRADE OF COTTON HUSK OR PAPER THAT WE USE IN NEW . . .

BUTTERWORTH CALENDER ROLLS





3-roll Schreiner Hydraulic Calender



Calender with Chasing Attachment

WHY not send your next calender roll to Butterworth for refilling and then you can prove in your own plant — and to yourself — just how much you would save if Butterworth refilled all your calender rolls.

Behind every new or refilled calender roll shipped from the Butterworth plant there are more than fifty years of experience in the making of Calender Rolls.

H. W. BUTTERWORTH & SONS COMPANY, *Established 1820*

PHILADELPHIA, PA. PLANTS at PHILADELPHIA and BETHAYRES, PA.

New England Office: TURKS HEAD BUILDING, Providence, R. I.

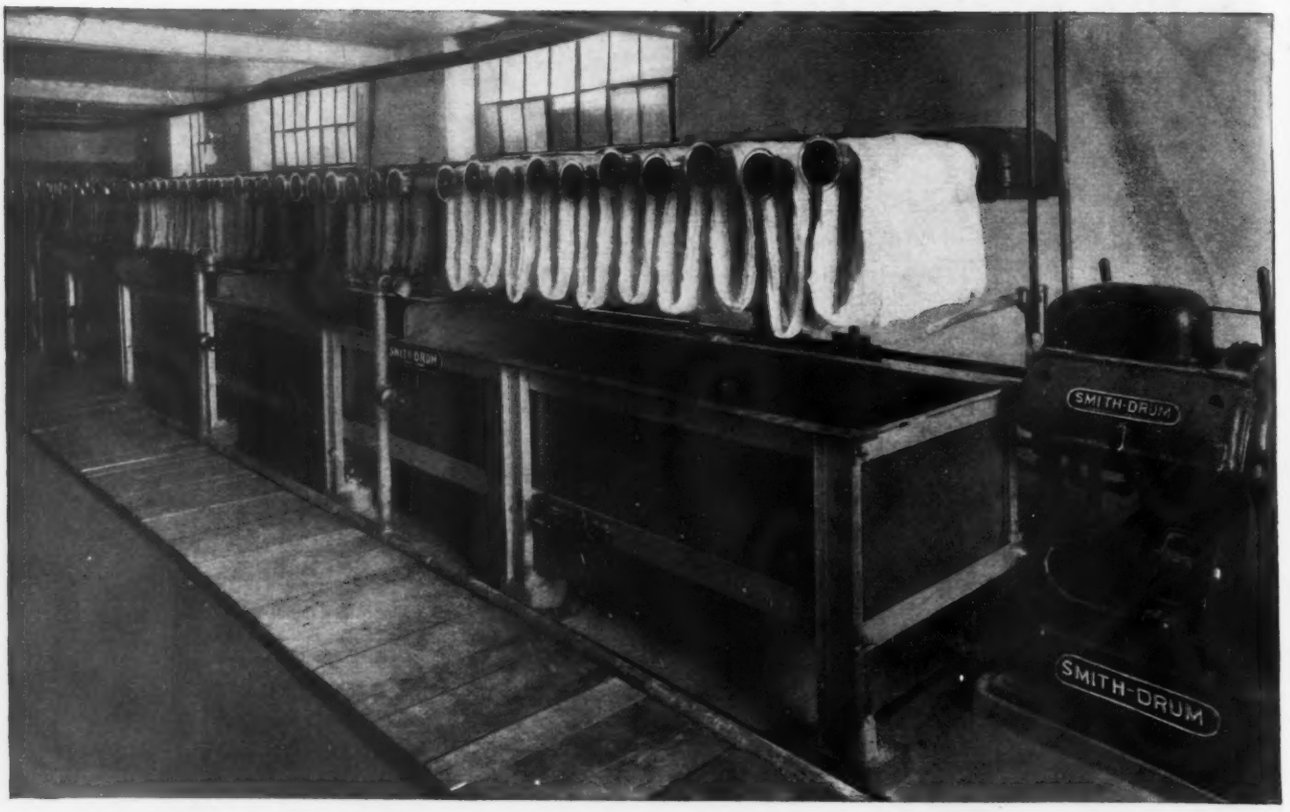
Southern Office: JOHNSTON BUILDING, Charlotte, N. C.

In Canada: W. J. WESTAWAY CO., Hamilton, Ontario

BUTTERWORTH *Finishing* MACHINERY

A COMPLETE LINE OF FINISHING MACHINERY FOR THE TEXTILE INDUSTRY

When it's Seven O'clock



SUBURBAN SILK DYE WORKS

Conshohocken, Pa.

Face the New Year with modern equipment in ample quarters and a growing list of enthusiastic customers.

The upper view shows SMITH-DRUM Skein Dyeing Machine with all reels in the loading and unloading position. Individually operated pump (separate from main drive) guarantees hydraulic power to raise reels instantly at 7:00 a.m. or any hour, day or night, and *keep* them raised until valve lever is thrown.

On opposite page, reels are shown in the operating position.

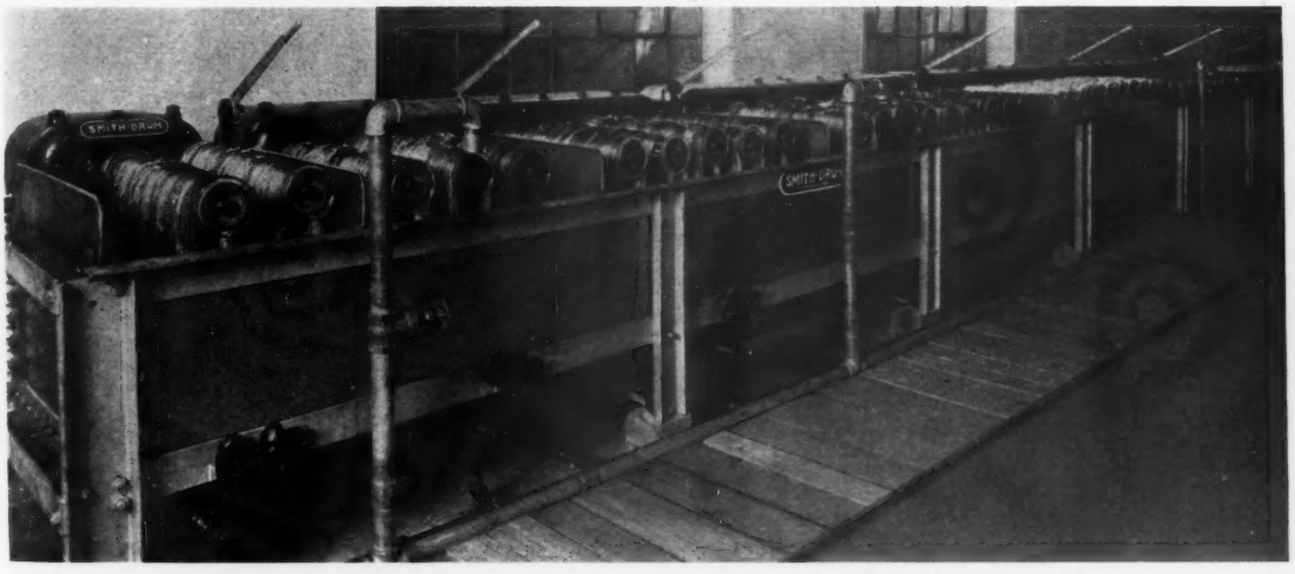
in Conshohocken

. . . . it's only six o'clock in Chicago and four in Los Angeles. But it's already noonday in Barcelona, and it's "tomorrow" in Melbourne.

In each of these cities (and many, many more) is located at least one concern using the new SMITH-DRUM Skein Dyeing Machine. Differences in time, language and customs, while interesting, are really insignificant beside the dominating thought that here are firms for whom yesterday's methods are unequal to tomorrow's task. "Tomorrow-minded" business firms, you might call them.

The Suburban Silk Dye Works of Conshohocken, Pa. have aligned themselves with the "tomorrow-minded" firms of the world by installing the newest type SMITH-DRUM Skein Dyeing Machine, a machine designed to give extraordinary service throughout many tomorrows.

May we explain the numerous exclusive, outstanding features of this machine? *Write!*

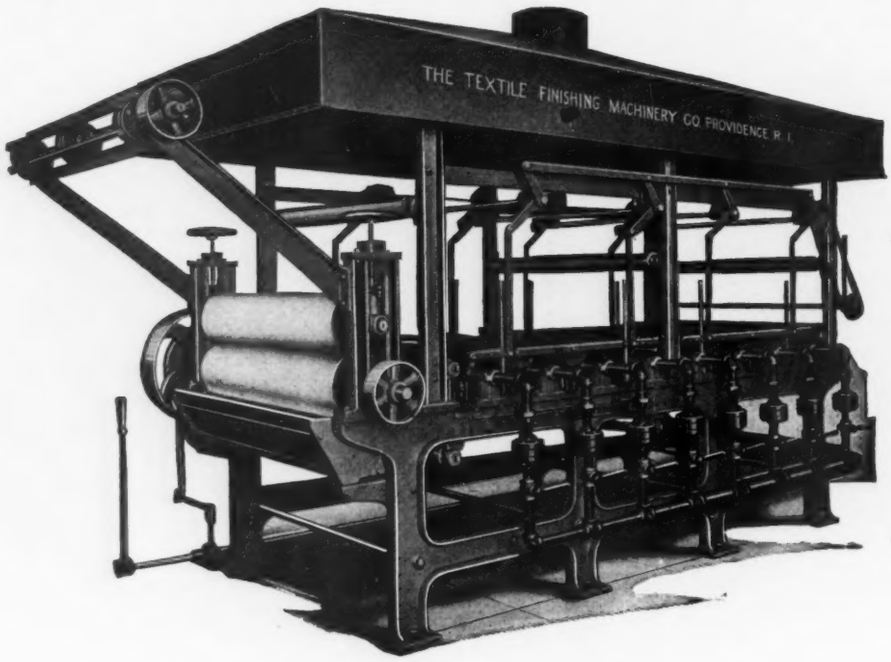


Builders of the Best Since 1888

SMITH-DRUM

Smith Drum & Co.
5th St. & Allegheny Ave.
Philadelphia, Pa.

Modern Methods Require Modern Machinery



The Singer illustrated represents the latest development in equipment to produce a thoroughly singed fabric at high speed.

WE MANUFACTURE MACHINERY FOR

Bleaching, Mercerizing, Dyeing, Drying, Printing and Finishing Textile Fabrics and Cotton Warps

THE TEXTILE-FINISHING MACHINERY CO.

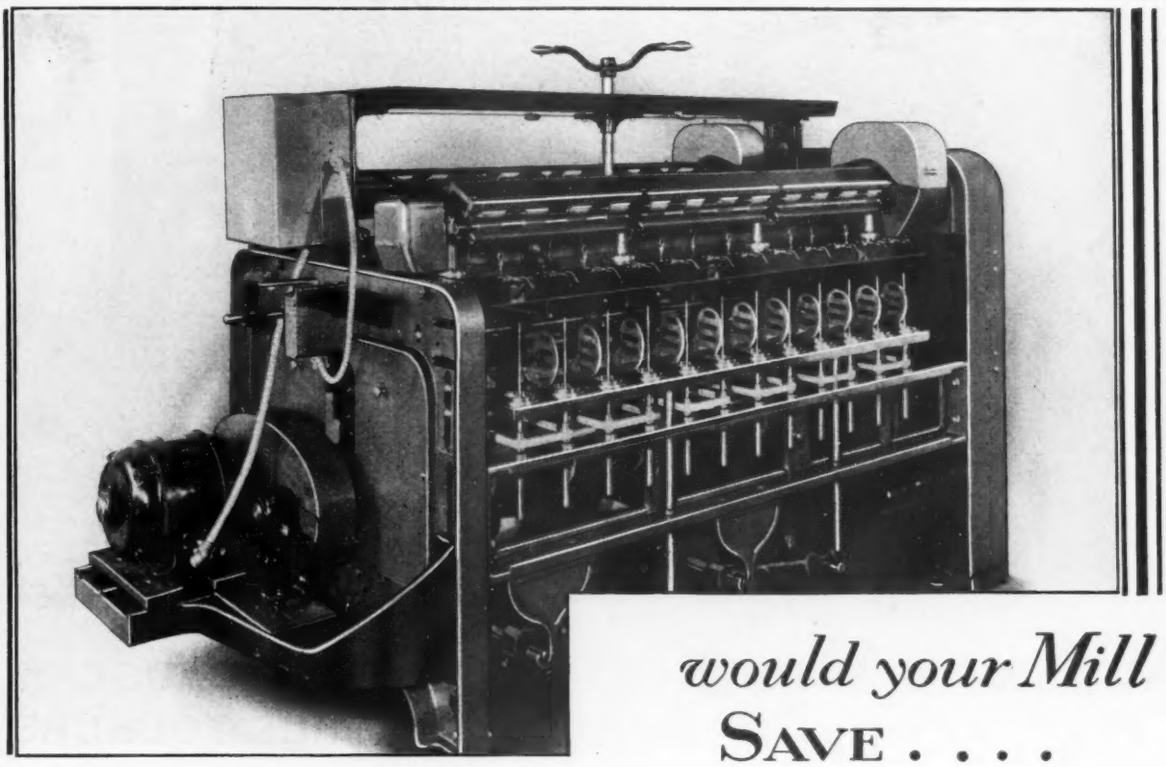
Main Office and Works
PROVIDENCE, R. I.

New York Office
30 Church St.

Southern Representative: H. G. MAYER, CHARLOTTE, N. C.

See Also CONSOLIDATED TEXTILE CATALOG

How Much Money . . . .



would your Mill
SAVE . . . .
if your spinning cost were cut 25%?

Here is an actual instance of savings amounting to 25% effected by a mill through the installation of Whitin Spinning Frames. This mill, spinning yarn coarser than 10's, discarded its obsolete warp frames and replaced them with modern Whitin Model F large package spinning frames.

Consider what happened.

1st. The new frames produced bobbins which carry 150% more yarn. Consequently the time between doffs was lengthened, and the number of knots in the mill's warp was materially reduced. The larger rings and longer traverse of the new frames made this possible.

2nd. An increase in production per spindle of 40% was obtained. Part of this increase was due to increase in front roll speed of 36%, possible because the wide gauge of the modern frame prevents whipping the yarn against the separators. The remainder of the increase was due to the reduction of frame stops for doffing.

3rd. The number of spinners in the room was cut 28.5%.

4th. The number of doffers was reduced 33⅓%.

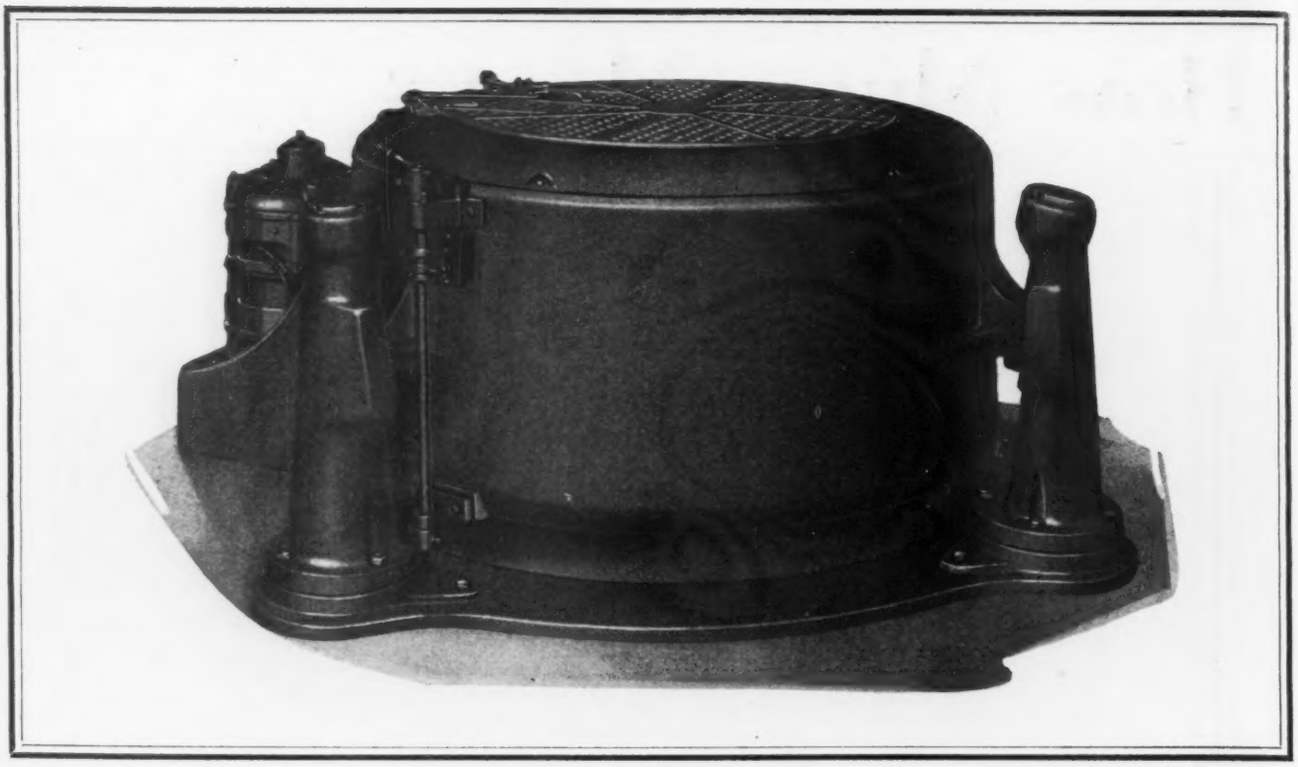
5th. Production in the weave room was increased 2% due to the fewer number of knots and consequent fewer warp stops.

The most expensive procedure for any mill is to "*save*" money by clinging to obsolete equipment. Whitin representatives are always at the service of mill executives interested in lowering costs. Write today! No obligation.

WHITIN MACHINE WORKS

WHITINSVILLE, MASSACHUSETTS, U. S. A.

CHARLOTTE, N. C. See Also CONSOLIDATED TEXTILE CATALOG ATLANTA, GA.



THE IDEAL TEXTILE EXTRACTOR—NOT BECAUSE OF ITS FEATURES BUT BECAUSE IT IS A TRUE TOLHURST

The Side Motor Driven Tolhurst Center Slung Extractor combines new design and advanced features with practical engineering knowledge gained through specialization in building of centrifugal equipment for over fifty years. Increased yield and lower operating costs are but two of its many interesting attributes. It is a more convenient unit. It is a sturdier and thoroughly dependable machine and it is safe to the point of being fool-proof.

To mention but three of its exclusive features and their bearing upon economy and dependability—these are the Center Slung construction, the arrangement of drive and the design of bearings.

DESIGNED AND BUILT BY SPECIALISTS

The patented Center Slung construction, which arranges for support at points on a plane through the centre of gravity of the basket, overcomes the tendency to dance or vibrate with unbalanced loads.

The V-belt drive, combined with the Tolhurst Clutch, maintains a lower power curve with no peak load upon the line, and there is no strain upon drive, motor or machine.

The bearings are maintained in positive alignment in a single dustproof. grease-packed housing.

For Catalog illustrating and fully describing this important unit, write the nearest Tolhurst office today.

Southern Representative:
Fred H. White
Independence Bldg.
Charlotte, N. C.

San Francisco Representative:
B. M. Pilhashy
Merchants Exchange Bldg.
San Francisco, Calif.

Canadian Representative:
W. J. Westaway Co.
Westaway Bldg., Hamilton, Ont.
455 Craig West, Montreal, P. Q.

TOLHURST
REG. U. S. PAT. OFF.
CENTRIFUGAL
EXTRACTORS

© TOLHURST MACHINE WORKS, INC. ESTABLISHED 1852, TROY, N.Y.

New York Office: 30 Church Street
Chicago Office: 8 So. Dearborn St.

See also CONSOLIDATED TEXTILE CATALOG

TOLHURST MACHINE WORKS, INC.
Please send me catalog describing the side motor driven Tolhurst Center Slung Extractor and illustrating its advantages.

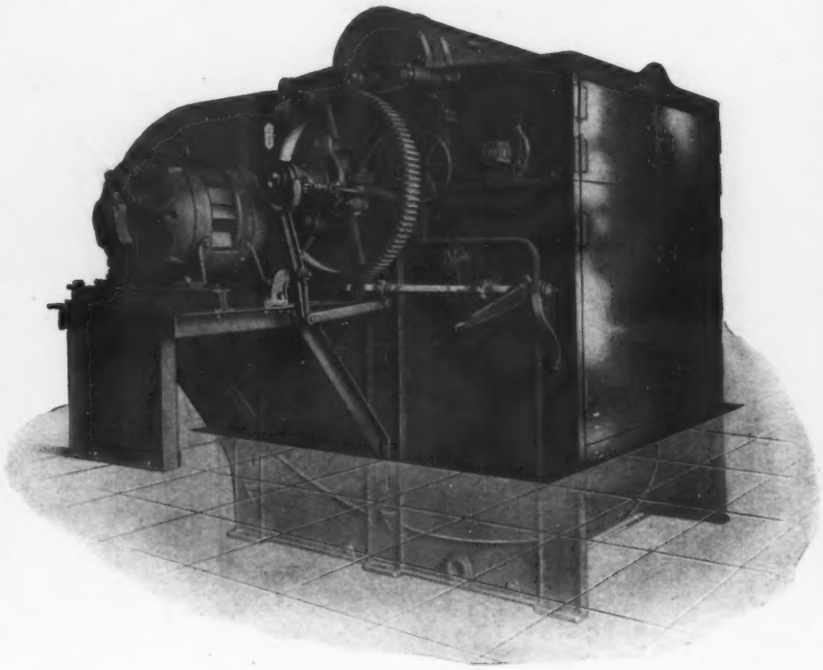
Name .....

Address .....

Compare Hunter Performance with Your Present Fulling Mill Operation!

CHECK THESE ADVANTAGES

1. **Complete elimination of vibration and noise due to weight and solid construction.**
2. **All adjustments can be made while the machine is in operation.**
3. **Elimination of warping of Crimping Box sides.**
4. **Rollers connected and driven by heat-treated steel roller chain.**
5. **Doors covered with Monel Metal; edges sealed with Monel Metal Channel.**
6. **Equipped with heavy duty roller bearings.**



IF YOU use Fulling Mills, compare the performance of the revolutionary, new Hunter Model 30 Fulling Mill with the output of your present machines:

—On 14 oz. Top Coatings 56 inches Finished Width, the Hunter Model 30 has fulled the complete daily output of 60 looms in a single day. This record because 10 pieces, 5 on side, were fed through the mill at a single setting, and the operation was repeated 6 times in a single day.

—Running 18 oz. Cotton Warp Top Coatings, 27 inches Finished Width, the Model 30 Hunter Fulling Mill is finishing 266% more than 4 old type mills, (running side by side with the Model 30), can full in the same time. On the above material, the new Hunter Model 30 is fulling 8 pieces, *run three times through the rolls,* at a single set.

—The Model 30, because so many pieces can be fulled at a single setting, is making possible a uniformity of fulling never obtainable before. Finishers and Dyers have been quick to appreciate this advantage for Piece Dyes alone.

Mail Coupon for Proposal

If your present output and daily fulling mill performance does not check with the above facts, we invite you to write for complete information on this important and revolutionary advance in fulling mill operation.

This Coupon Filled Out is a Step Toward More Profitable Fulling.

The attached coupon is for your convenience. Tell us frankly the types and weights of materials you are now running, your present fulling mill capacities, and the capacities you desire. If you will send us this information on the attached coupon, our Engineers will gladly show you how the application of the new Model 30 Hunter Fulling Mill to your individual Finishing will benefit you. They will tell you the exact advantage over your present equipment, the cost, and what the probable profit will be. Please mail the coupon early.

James Hunter Machine Co.
North Adams, Mass.

Send me complete data on the New No. 30-D Fulling Mill and its relation to our individual requirements. Complete information is given below.

Present equipment and capacities.....

Weight and types of materials.....

Capacities desired.....

Name..... *Title*.....

Mill.....

Address.....

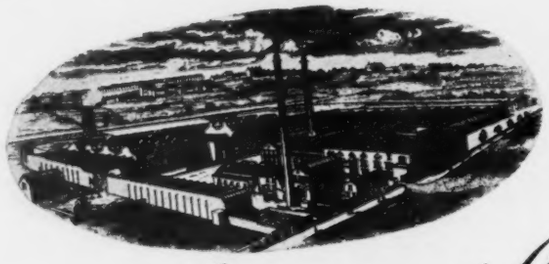
PROVED! Monel Metal dye jigs render "satisfactory service for a number of years"

Green Lane Dye Works. Yeadon NR. LEEDS.

TELEGRAMS "ROLYAN" YEADON

BRADFORD OFFICE: 17 SWAINE STREET.
MANCHESTER OFFICE: 4 AYTOUN STREET.

TELEPHONES: WORKS 101 & 102 RAWDON. BRADFORD OFFICE: No 1764. MANCHESTER OFFICE: No 4378 CENTRAL.



Naylor, Jennings & Co. Ltd.

Mercersers. Dyers & Finishers of all makes of Cotton Goods for High Class Trade.

DIRECTORS H NAYLOR H JENNINGS

Messrs Monel-Weir Ltd.,
Cathcart,
GLASGOW.

26th. April 1929.

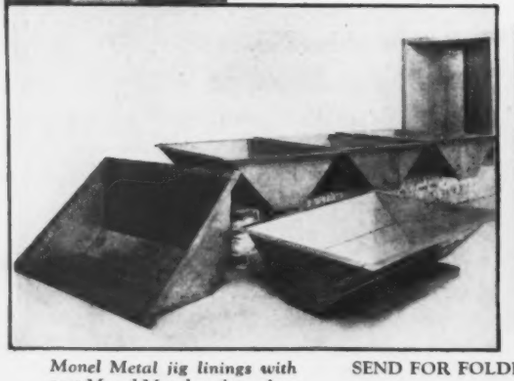
Gentlemen,

We are pleased to advise you that our experience with Monel Metal Lined Jigs, of which we have a considerable number, have proved very satisfactory,

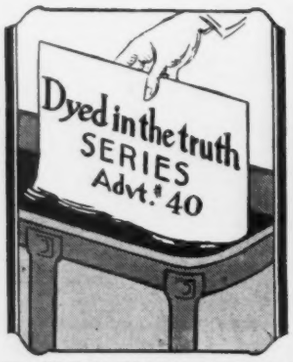
Some of the above machines have been in service for a number of years and we are in every way pleased with results.

Naylor, Jennings & Co.Ltd.

INCO MONEL METAL



Monel Metal jig linings with cast Monel Metal outlet valves as used at plant of Naylor, Jennings & Co., Ltd., Yeadon, Yorkshire, England.



View of Naylor, Jennings & Co., Ltd. dyehouse where more than 70 Monel Metal lined dye jigs are in regular use.

SEND FOR FOLDER—"DYED IN THE TRUTH", VOLUMES I AND II

See Also CONSOLIDATED TEXTILE CATALOG

MONEL METAL

Monel Metal is a technically controlled Nickel-Copper alloy of high Nickel content. It is mined, smelted, refined, rolled, and marketed solely by The International Nickel Company, Inc. The name "Monel Metal" is a registered trade mark.

THE INTERNATIONAL NICKEL COMPANY, INC., 67 WALL STREET, NEW YORK, N. Y.

The

NEWPORT WISH

at

CHRISTMAS TIME

is

A MERRY CHRISTMAS

and a

HAPPY NEW YEAR

to all those who have made our progress possible by their confidence, good will and loyalty

and

to all those whom we hope to serve in the future. May success attend their every venture in 1930! We shall do our share by maintaining the

NEWPORT STANDARDS

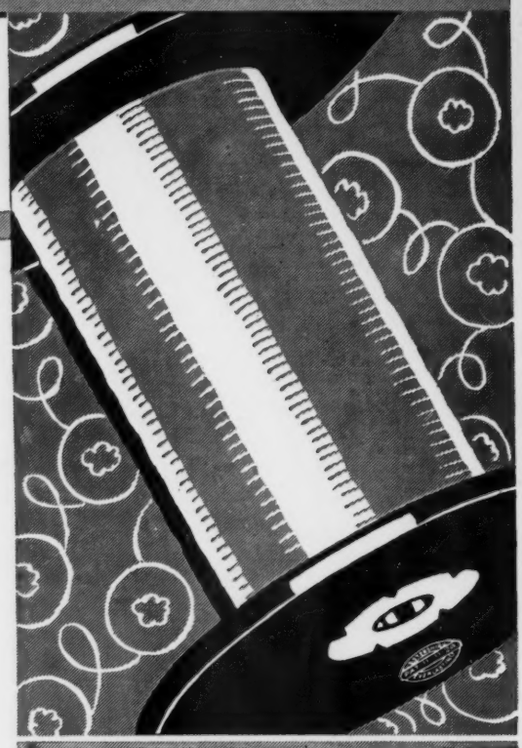
of

QUALITY and SERVICE

NEWPORT CHEMICAL WORKS, INC.
PASSAIC, NEW JERSEY

NEWPORT
TRADE MARK

LESTERSHIRE SPOOLS



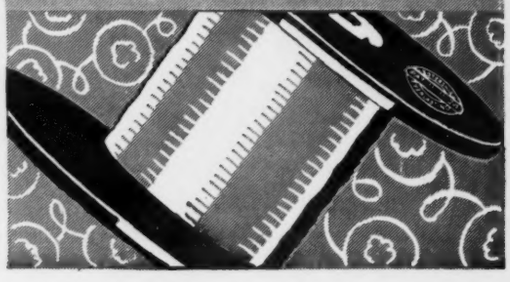
AN ounce of prevention is worth a pound of cure... a proverb particularly applicable to weaving. The key to the problem often is the trueness or *un*trueness of the spools employed.

On an untrue spool overlapping of the yarn when being wound occurs at the ends of the spool. When the process is reversed the yarn does not unwind freely. In consequence a tension is created which stretches or thins the yarn—or even breaks it.

This is not the case when Lestershire Spools are used. Their accuracy of construction gives an all-surface trueness—so yarn winds on smoothly and evenly, and unwinds without abnormal tension.

The use of Lestershires is the 'ounce of prevention' which avoids trouble at the loom—which results in better and more economical spooling.

HELP *to* PREVENT TROUBLE *at the* LOOM



Satisfaction Guaranteed

LESTERSHIRE SPOOL & MFG. CO.

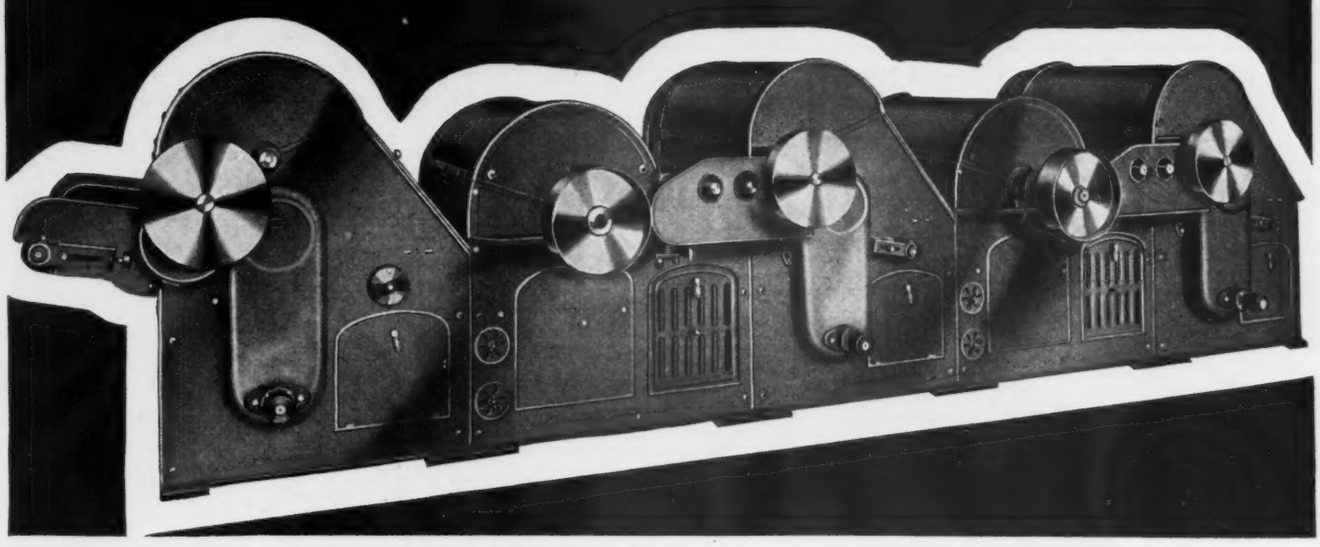
TRADE FIBRE SPOOLS MARK

Box 3
Johnson City
New York

Southern Office:
519 Johnston Bldg.
Charlotte, N. C.

NEW

H&B TANDEM 30″ CYLINDER OPENING AND CLEANING UNIT



OUR new 30-in. Buckley Cylinder Opening and Cleaning unit can be supplied in Single, Double, or Triple Units, suitable for connection to Hopper Bale Openers, Crighton Openers or Independent Feeders. All Cylinder Sections are of the Buckley type, with extended grid bar surface and large dirt-receiving chamber.

The Cylinders are built up on a central shaft, with boiler plate steel discs. Steel blades are riveted to the periphery of the discs, and bent at varying angles so that the cotton across the whole width of the machine comes under the action of the Cylinder.

Grid bars are of the narrow type, adjustable to the class of cotton being run. The spacing and arrangement of these bars provides the most effective cleaning area of any known cotton-cleaning agency. The Cage Sections are of the Lattice Delivery type, with single Cage and Lattice Apron, ensuring an even distribution of cotton the full width of the machine.

All Fans are of the multi-vane type, with steel blades, and mounted on Heavy S. K. F. Ball Bearings.

Safety Beater Locking Devices, Adjustable Air Shutters, and Stands for motor or countershaft drive are part of the regular equipment.

See also CONSOLIDATED TEXTILE CATALOG

H & B AMERICAN MACHINE CO.

PAWTUCKET, R. I.

Southern Office: 814 and 816 Atlanta Trust Co. Bldg., Atlanta, Ga.

BUILDERS OF COTTON PREPARATORY AND SPINNING MACHINERY

NEW! NEW! NEW! NEW! NEW! NEW!

❖ DIRECT MOTOR DRIVEN ❖

HERCULES EXTRACTORS

IF! YOU WANT AN EXTRACTOR

WITHOUT A BELT
WITHOUT A PIT
WITHOUT FOUNDATION
WITHOUT VIBRATION
OR OVERHEAD STRUCTURE
WITHOUT NEED OF OILING

RAPID DEPENDABLE DRYING
MADE—42 in.—48 in.—60 in. SIZES

~HERE IT IS!

FULL INTERLOCKING GUARD
NOTHING OVERHEAD

NOTHING BELOW FLOOR

"SILENT SERVICE"

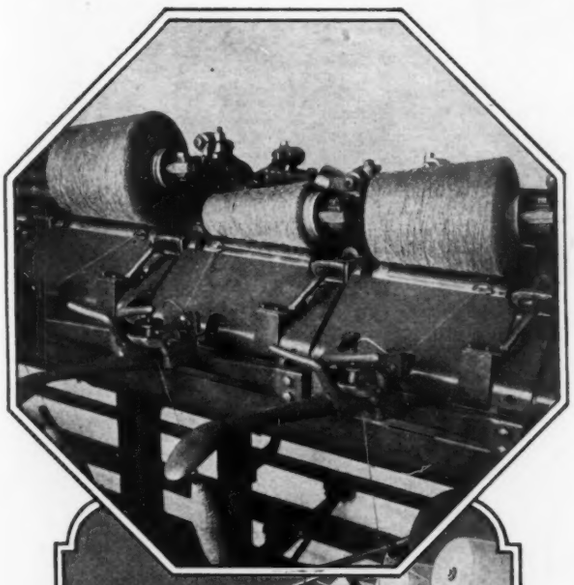
HARING & STEPHENS CO.

McBRIDE AVE. AT 35th ST. PATERSON, N. J.

PHONE: SHERWOOD 6342-6343

See also CONSOLIDATED TEXTILE CATALOG

LEESONA



The Yarn Supply for Twisting

THE overend delivery of yarn from stationary cones is undoubtedly the ideal form of creel supply. Four pound cones of cotton yarn, mechanically inspected during the winding on the #60-GF UNIVERSAL WINDER, mounted on our special Twister Creel, will run for one hundred and sixty-two hours without recreeling. There is no breakage in the twisting, as all slubs and thin places are removed from the yarn in winding.

Two machine tenders can operate 1800 spindles when using bobbins of 9″ traverse with 3½″ rings on a 5″ gauge twister. Doffing is necessary but once in twenty-seven hours.

Similarly, worsted cones varying from five to seven inches in diameter, according to the gauge of the twister, and weighing from 2½ to 3 pounds of 32's single, provide a creel supply sufficient for seven days' operation of the twister—and efficiency is increased 12% to 15%.

Yarn twisted by this method is of superior quality due to the elimination of imperfections, and the uniformity of tension both in winding and twisting.

UNIVERSAL WINDING COMPANY
BOSTON

UNIVERSAL WINDERS

See also CONSOLIDATED TEXTILE CATALOG

301

Water may look clean, but it is the invisible impurities that cause damage, as evidenced by the fibres on the left.

It Pays

to study your water supply

Has it ever occurred to you that your water supply is raw material—something that should be studied with a view to quality and freedom from impurities—just as you examine other raw materials?

Look closely at the two photographs above. On the right are clean wool fibres that were scoured in Permutit softened water. Examine the scaly structure of the fibre with its "fircone" surface and note how clean it is. Then look at the other picture which shows fibres heavily coated with lime soap due to scouring in hard water.

The mill which sent us these two samples saved thousands of dollars by properly conditioning its water supply, yet the company operated for years on a moderately poor water supply without ever thinking to study it as other raw materials were studied.

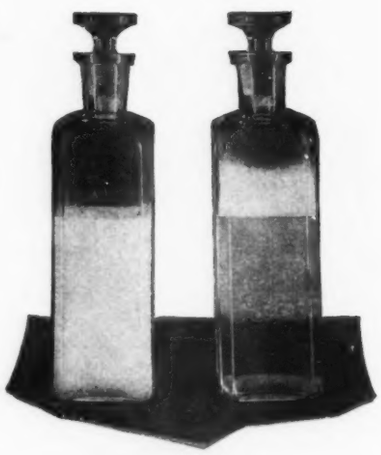
And what about YOUR mill? Do you have trouble in your dyeing and bleaching—are you satisfied with the quality of your best grades—how much money do rejections cost YOU per year?

No matter if you feel that your water supply is soft and clear, it will pay you to have experts study it, as it has paid others like yourself in every branch of the textile industry.

We are specialists in solving water problems. We make all types of equipment for conditioning water, and our apparatus is saving thousands of dollars annually for many textile mills, by eliminating troubles and by improving the quality of their yarns and cloth.

Our booklet, "Reducing Textile Costs and Troubles," contains a lot of valuable information about textile water supplies. Let us send you a free copy. No obligation.

Write to-day.



Try This Simple Test

Add a few chips of good soap to a bottle of water. Shake it up, and look at the water under the suds. If it is cloudy, the water may cause trouble in textile processing.

The Permutit Company

APPARATUS FOR REMOVING IMPURITIES FROM WATER

MAIN OFFICE — 440 FOURTH AVENUE, NEW YORK — BRANCH OFFICES IN ALL PRINCIPAL CITIES

LOOM·INARIES·OF·THE·TEXTILE·INDUSTRY

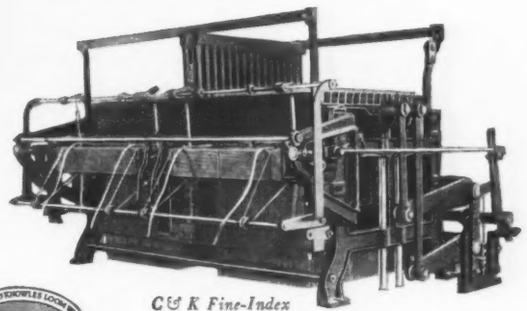
Thoughts on Your Profits..

STYLE dominates many industries today but emphatically—TEXTILES. Color and pattern are necessary to easier merchandising under present conditions.

Jacquard patterns are found in clothes, upholstery, hangings, rugs, tablecloths and napkins . . and color . . everywhere.

Will you concentrate on staple plain goods or will you follow the style trend toward jacquards?

Many manufacturers are modernizing and increasing their jacquard equipment. If you contemplate any changes in yours, you will find it advantageous to consult our experts. The benefit of our advice entails no obligation.



C & K Fine-Index Jacquard

WE SUPPLY complete jacquard equipment for new looms or for looms now in your mill . . we build harnesses, develop designs, cut cards and furnish mail eyes, lingoes, heddles, twine and blank cards.

We supply supporting mechanism for jacquards or will gladly give engineering advice on the best method to support them in your mill.

See also CONSOLIDATED TEXTILE CATALOG

CROMPTON & KNOWLES LOOM WORKS

WORCESTER, MASS.

PROVIDENCE, R.I. PHILADELPHIA, PA. ALLENTOWN, PA. PATERSON, N.J.
S. B. ALEXANDER, SOUTHERN MANAGER - - - CHARLOTTE, N.C.

—and you don't have to be a Sherlock Holmes either

POOR slashing stands out like a sore thumb. There are many evidences of it usually, but if one watches the aisles of a weave room, he will see plenty.

Shedding is Exhibit A in any case against the slasher room. The experienced mill man keeps careful tabs on his weave room sweepings. There is a story in them for him.

No matter what kind of slashing results you are getting, they can be improved substantially with *Tycos* control. Here is a system that is thoroughgoing and complete. Regulators are provided for size cookers, size boxes and drying cylinders. No matter how skillful, how reliable your slashing men are they can't hope to equal the sensitive automatic control of this system. It is giving mill men a new conception of slashing costs in many mills throughout the country. It stands for uniformity of the warps.

We shall gladly go into detail and show you what this system is accomplishing in mills similar to your own. *Write today.*

Taylor Instrument Companies

ROCHESTER, N. Y., U. S. A.

—See also—
CONSOLIDATED TEXTILE
—CATALOG—

Canadian Plant
Tycos Bldg.
Toronto

Atlanta Office
403 Bona Allen Building
Atlanta, Georgia

Boston Office
141 Milk Street
Boston, Mass.

Manufacturing Distributors in Great Britain
Short & Mason, Ltd., London

SLASHER CONTROL SYSTEM

Tycos *for Guaranteed Results*

Host: *"You win the bridge prize. Here it is—a box of our new hosiery."*

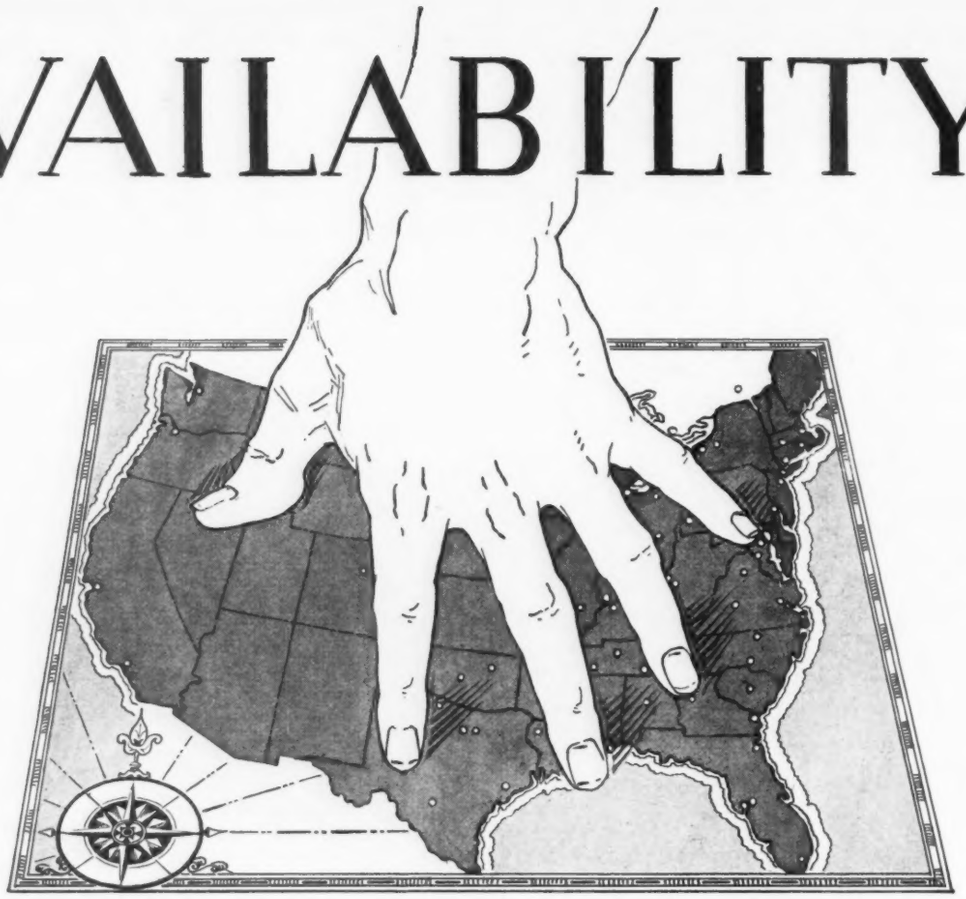
Guest: *"Why, this is marvelous . . . and what a* beautiful *box."*

Host: *"Yes, we're particularly proud of that box. We had it designed and lithographed by one of the foremost companies in the business."*

HOSIERY packing designed and lithographed by Kaumagraph has the habit of success. It has the habit of getting looked at . . . . and getting the hosiery that it contains looked at. For Kaumagraph *knows how* to design *hosiery packing that packs a sales appeal*—packing that has a personality. If your hosiery packing doesn't seem to have the habit of success, or if it could be more successful, call in Kaumagraph. We may be able to help you in the same way that we have helped many other hosiery manufacturers.

KAUMAGRAPH COMPANY . . . 200 Varick Street, New York City
Boston, Chicago, Philadelphia, Los Angeles, Charlotte, N.C., Chattanooga, Tenn., Paris, Ont., Paris, France

AVAILABILITY



THE real value of a distributing organization can be measured by how well it serves the needs of individual customers. In a word, availability to all purchasers must be assured. The location of Mathieson plants near the principal consuming centers insures prompt shipments, regardless of quantity, while a nation-wide chain of a hundred warehouse stocks serves the needs of Mathieson customers requiring limited quantities on short notice. This distributing service is an essential factor in the Mathieson policy of guaranteeing quality and satisfaction to every purchaser of Mathieson Chemicals.

Soda Ash
Caustic Soda
Liquid Chlorine
Bleaching Powder
Bicarbonate of Soda
Ammonia, Anhydrous & Aqua
HTH (Hypochlorite)
PURITE (Fused Soda Ash)
Sulphur Dichloride

The MATHIESON ALKALI WORKS *(Inc.)*
250 Park Avenue, New York City
Philadelphia Chicago Providence Charlotte Cincinnati
Works: Niagara Falls, N.Y. Saltville, Va.
Warehouse Stocks at all Distributing Centers

MATHIESON CHEMICALS

See also CONSOLIDATED TEXTILE CATALOG

H. G. LORD, *President*
FRANK L. NAGLE, *Chairman*
H. O. BARNES *Secretary*

Textile World

ESTABLISHED 1868

Formerly TEXTILE WORLD JOURNAL, with which are combined Textiles and Posselt's Textile Journal

J. H. BRAGDON, *Vice-President and General Manager*
JAMES H. MCGRAW, JR., *Treasurer*

Contents—December 28, 1929

The Week in Textiles....page 23
Editorials ..... page 26
Creative Textile Design—Center and Half-Drop Patterns..... 28
Golden Fleece to Glisten in More Splendid Setting 32
Dyeing Full-Fashioned Hosiery 34
Textile Industry Competes with Itself..... 36
Use of Edge Wires in Narrow Fabric Weaving..... 38
What's Wrong with Textile Distribution? 43
Identification of Rayon..... 47

And Other Current Features

COTTON

Finer Yarns for Finer Hosiery 33
Poor Month for Cotton Yarns 61
Cotton Undertone Better..... 67
Heavy Print Cloth Selling..... 71

WOOL

Outerwear Yarn Outlook Good 63
Worsted Wastes Excess Supply 65
Cheap Wool Attracts Buyers.. 69
Holidays Affect Wool Goods... 73

KNIT GOODS

Rayon Underwear Moves Fast 71
Good Hosiery Christmas..... 71
Holiday Quiet in Outerwear.... 71

❖

Textile World Analyst..... 55
News About Men..... 48
News About Mills..... 50

The Latest Style for Those Who Wear Asbestos

SILK AND RAYON

Silk Spinners See Busy Spring 63
Thrown Silk Prices Firmer... 63
Rayon Outlook Good..... 65
Rayon Waste Outlook Improves 65
Raw Silk Stronger..... 69
Shantungs for Spring Wear... 73

GENERAL

Warning to the Trade..... 24
Textile Calendar..... 79
Financial Reports..... 59
Safety Council Activities..... 77
Recent Textile Patents..... 81
Business News..... 81
Obituaries 81

❖

Questions and Answers.... 44
New Machinery and Processes 52
Quotations 74

Complete Index covering each six months is available to subscribers semi-annually
TEXTILE WORLD is also indexed in the Industrial Arts Index to be found in public libraries.

Copyright, 1929, by Bragdon, Lord & Nagle Co., Inc.

BRAGDON, LORD & NAGLE CO.,
Division of McGraw-Hill Publishing Co., Inc., Tenth Ave. at 36th St., New York

Cable Address: "Machinist, N. Y."

BOSTON, 1427 Statler Bldg.; WASHINGTON, National Press Building; GREENVILLE, S. C., 1301 Woodside Bldg.; CHICAGO, 520 N. Michigan Ave.; PHILADELPHIA, 1600 Arch St.; CLEVELAND, Guardian Bldg.; ST. LOUIS, Bell Telephone Bldg.; SAN FRANCISCO, 883 Mission St.; LOS ANGELES, 632 Chamber of Commerce Bldg.; LONDON, 6 Bouverie St., E. C. 4.

Textile World: Published weekly. Subscription price—United States and Canada, $4.00 per year; Mexico and South America, $5.00; other Foreign Countries, $7.00; Single Copy, 20 cents, excepting special issues.

Official American Textile Directory: Published annually in two editions—Office, Large Size, $5.00. Traveler's Flexible Smaller, $3.00. A complete directory of the textile industry of U. S., Canada and Mexico. Vest pocket editions in three sections, viz.: the New England States and Canada; Middle Atlantic States; Southern and Western States, $1.50 per section.

American Directory of the Knitting Trade: Published annually in a handy size, $2.00. Full reports of every knitting mill in the U. S. and Canada; also sales agents, knit goods buyers, etc.

Member of the Associated Business Papers, Inc., of the Audit Bureau of Circulation, and of the National Conference of Business Paper Editors.

Only the very best is acceptable

ASK any well-gowned woman how to select clothes like hers and she'll probably tell you to begin with an ideal. "From the skin out," she'll say, "every garment must be measured by one standard—*only the very best is acceptable.*"

Ask any manufacturer how he builds quality into his garments or fabrics and he'll tell you to begin with an ideal—only the very best is acceptable. "But," he'll probably add, "the best isn't always the most expensive."

Or ask any Industrial Rayon employee why Premier yarn is so good. He'll tell you quickly of an ideal—only the very best is acceptable. For he knows certainly that into every strand of Premier Rayon goes all the skill, all the care, and all the inherent quality that man can apply.

INDUSTRIAL RAYON CORPORATION

General Offices: West 98th Street and Walford Avenue, Cleveland, Ohio
Plants: Cleveland, Ohio and Covington, Virginia

Premier Rayon

PREMIER INDUSTRIAL RAYON